THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

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RECONSTRUCTION POINTS

WITH so many of our architects working below capacity—although the reason for such a state of affairs at a time of total war and following widespread destruction is hard to understand—it is natural that they, individually and as a body, should turn their minds to the problems of a peace which may come sooner than we imagine. Reconstruction thus looms largely in their thoughts and utterances, and they need great courage to grapple with this baffling subject.

We have always understood the making of plans to follow the receipt of clients' instructions, and the obtaining of precise particulars. The survey with level, rod and tape is a first and necessary preliminary before plans can develop on paper in any really useful and practical form. With such ingrained habits of procedure it would be understandable if the profession declared at this juncture that it could do nothing until its great client, the British nation, had issued precise instructions, or until the work to be done after the war had been defined in scope and size. There are, indeed, many seriously-minded architects who believe that discussions about the future of the profession at the present time depend upon too many imponderables to serve any practical purpose.

Such a conclusion would certainly simplify the immediate problem of how to prepare for Reconstruction, and bearing in mind that simplicity is often a virtue in itself, that point of view ought not to be lightly cast aside. If it is the wise course for us to stand by and await the fog of war to clear, then that obviously must be done, however impatient we may feel at the enforced inaction. There is, indeed, much to encourage this unspectacular conclusion. As each point for reconstruction arises, a parallel question presents itself with no apparent answer. War damage: How much, and where before the war is ended? The future of the profession: What, first, is the future of the State in which the profession must function? Legislation: Who can make laws in advance of the conditions which call for them? Education: Must we not know a little more about the job we are going to educate young men to follow?

Yes, indeed, we might make many plans of no avail if we assumed too much of the future. And yet the Royal Institute of British Architects, in concert with other bodies, continues to sit in deliberation upon this elusive subject of Reconstruction. And the men who are giving their time to this questioned occupation are not a number of unpractical visionaries, building a great castle in the air, but keen professional men who have combined with their talents as architects a clear conception of the solid realities without which architecture can never appear out of the ground. Are these men right or are those others, who appear to have such solid grounds for advising a suspension of judgment? We venture to think that the Institute is in this case fundamentally right, and that we cannot afford to waste a moment in our preparation for action in peace.

At the same time, it is obvious that such plans as are made can contain very little precise detail, and that to attempt to make it otherwise would be impossible at the present uncertain time. But that should make us all the more prompt to seize upon any first principle we can discover as having some element of precision about it. We venture to suggest that one such principle at least has an obvious place in any plan which can be devised for the good of architecture in its widest sense—that if we are to have a better built and better looking England when we have finished our reconstruction, it is imperative that building should be devised and controlled by trained architects.

There is no law that will work so as to abolish ugliness and shoddiness, unless it is made impossible for the untrained and inefficient to assume responsibility for this difficult and skill-demanding job; and we can go much farther than that and say that if skill is made the condition for undertaking any building venture, the need for restrictive legislation at once becomes less pressing. We would suggest, then, that a first step in reconstruction is to press this point and carry it with those who have undertaken to promote the reconstruction of the country after the war. It should be no more difficult to ensure this than to ensure that only a qualified surgeon shall carry out a major operation.

Another point which will, doubtless, arise in any discussions upon post-war procedure will be some simplification of the various regulations and consents which are the condition of building and which, good as they may be in their intention, have tended to complicate beyond reason the network of difficulty which faces the would-be developer. This is, of course, far too big a subject to deal with in this place, but it may be well to suggest at an early stage of any deliberations which may be going on that we must take care not to content ourselves with some outward scheme of unification which does no more than put the same number of unco-ordinated authorities under one roof, with a common note heading. We have seen much of this sort of thing done during this war and, indeed, long before it, and it can be said with some truth that there is nothing more irritating than to find that a Unified Authority has become a Circumlocution Office, around the corridors of which we chase vainly for finality. Unity must mean more than a name.

One other point we would touch upon. We would suggest that in education there are fewer uncertainties than in most of the tasks which face us, and we feel that whatever the extent of the job ahead, and whatever the shape of our social system, it should be possible to devise in advance an educational programme suited to men who are drawn to the art of architecture, to develop that rare combination of building sense and specialised culture without which none can hope to practise architecture successfully. Something better is needed than we have yet produced as an educational plan for the young architects of the future—a plan which will give them a more real and experienced sense of responsibility than some recent students have shown.

NOTES AND NEWS

Westminster's Paper Salvage Campaign.

We call the special attention of local readers to a letter from the Mayor of Westminster (p. 526) announcing a salvage drive, beginning next Monday, which, by the generous action of an anonymous donor, promises substantial help to the Benevolent Funds of our Forces. Those who still have any accumulation of waste paper are urged to get rid of it without delay. By so doing they will help two most desirable objects, namely, the increase of the supply of munitions and benevolent aid to those who are giving their all in the fight to preserve our freedom.

Barry's Plans for Houses of Parliament.

A bundle of plans found in the attic of his Cheam home by Mr. Charles Marshall, F.R.I.B.A., will, it has been stated, be the means of completely restoring the raid-damaged Houses of Parliament. The drawings—the original plans of Sir Charles Barry, the architect of the Palace of Westminster—had been in the attic for forty years. The drawings have been examined by the Chief Architect of the Office of Works and handed to the architect in charge of the House of Commons.

Mr. Marshall is to present the drawings to the Library of the Royal Institute of British Architects when the Office of Works have finished with them.

A.B.S. Christmas Appeal.

Two years ago a special Christmas appeal on behalf of the Architects' Benevolent Society was made by the late President. It realised over £700. The needs of the Society are greater now than in 1939, and will increase as the war continues.

Mr. W. H. Ansell, P.R.I.B.A., is therefore appealing again to all architects, particularly those who do not regularly subscribe to the Society's funds, to contribute something as a Christmas offering. "It is surprising," he adds, "that out of 13,867 registered architects, less than 1,500 subscribe to the A.B.S. It should, therefore, be possible to raise at least £1,000 towards the grants that are being made to architects and architects' assistants who may be in need. Will you personally help to this end by sending a gift, even though it be a quite small amount?" The Society's office is at 66, Portland-place, W.1.

Planning Films.

The Ministry of Information are presenting in the Theatre, Ministry of Information, Malet-street, London, W.C.1, on Wednesday, December 17, at 4.30 p.m., a show of planning films, which will include: "The City," with a commentary of Lewis Mumford (made for the American Institute of Planners), and "All Those in Favour," a new film on local government. Invitations have been issued by the Town and Country Planning Association, 13, Suffolk-street, S.W.1.

A.A. School of Architecture.

The Architectural Association School of Architecture invite applications for part- or whole-time studio masters; teaching experience is not essential. Appointments in the first place are for the spring term (January 6-March 20), and salary is on basis of £100 for the full term. In addition, there is a vacancy for a lecturer on hygiene and allied subjects, at a fee of two guineas per lecture. Applications, by letter, should go to Mr. Frederick Gibberd, F.R.I.B.A., Principal of the School, The Mount House, Monken, Hadley Common, near Barnet, Herts.

Institution of Mechanical Engineers.

The Institution of Mechanical Engineers, North-Western branch, have extended an invitation to members of the Institution of Municipal and County Engineers to attend a meeting on December 13, at 2.30 p.m., at the Engineers' Club, Albert-square, Manchester, when Mr. W. T. Halcrow, A.M.I.Mech.E., Consulting Engineer, will deliver the Thomas Hawksley lecture entitled "A Century of Tunnelling."

Institute of Quantity Surveyors.

The Institute of Quantity Surveyors (North of England branch) is holding an inaugural meeting on Saturday, December 13, at 2.30 p.m., in the County Hotel (adjoining Citadel Station main entrance), Carlisle.

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COMING EVENTS

Saturday, December 13.

Institution of Mechanical Engineers.—Mr. W. T. Halcrow on "A Century of Tunnelling." At Engineers' Club. Albert-square, Manchester. 2.30 p.m.

Institute of Quantity Surveyors.—Inaugural meeting of N. England branch. County Hotel, Carlisle. 2.30 p.m.

Institution of Municipal & County Engineers.—Yorkshire Branch General Meeting. Wakefield Town Hall. 2.15 p.m.

Tuesday, December 16.

Housing Centre Lunch.—Miss Olive Matthews on "New Plans for Old." 13, Suffolk-street, S.W. 1 p.m.

Friday, December 19.

A.A.S.T.A.—London Branch Meeting at 9, Great Newport-street, W.C.2. 6.30 p.m.

Saturday, December 20.

Ecclesiological Society. — Mr. F. Darwin Fox on "Mediæval Conception of Music in Worship." At 6, Queen-square, W.C.1. 2.30 p.m.

Thursday, January 15.

Institution of Electrical Engineers.—Mr. W. Gilchrist on "Problems in application of Electrical Heating to Residential and Commercial Premises." Savoy-place, W.C.2. 4 p.m.

TOWN PLANNING IN THE SOVIET UNION

Too little is known in this country of the arts of the Soviet Union—and particularly the art of town planning. For more than twenty years the Soviet people have been replanning and developing town and country; clearing slums and rebuilding houses; reorganising industry and building new industrial towns. They have carried out this work on a nation-wide planning organisation springing from a conception of land ownership and control of private property and industry which is based on State control. Under the first and second five-year plans, 5,000,000 people were accommodated in new dwellings; and by 1937, four-fifths of the entire industrial production was accounted for by new enterprises.

These facts appear from an interesting article by Mr. Arthur Ling in the current issue of "The Anglo-Soviet Journal" (Lindsay Drummond, Ltd.), in which the Soviet's twenty years of reconstruction are described, and from which the illustrations on facing page are taken.

Soviet towns, it appears, have since 1928 been limited in size according to their planned industrial productivity. Before then, planning specialists had to use the statistical method of calculating the future size and extent of towns. Writes Mr. Ling: "Thus, although the obstacles of private ownership had been swept aside, it took ten years to prepare the groundwork for real planning. Britain is technically in a much more advanced stage than the Russians were in 1918, but we have no national survey of our resources or an economic plan for them."

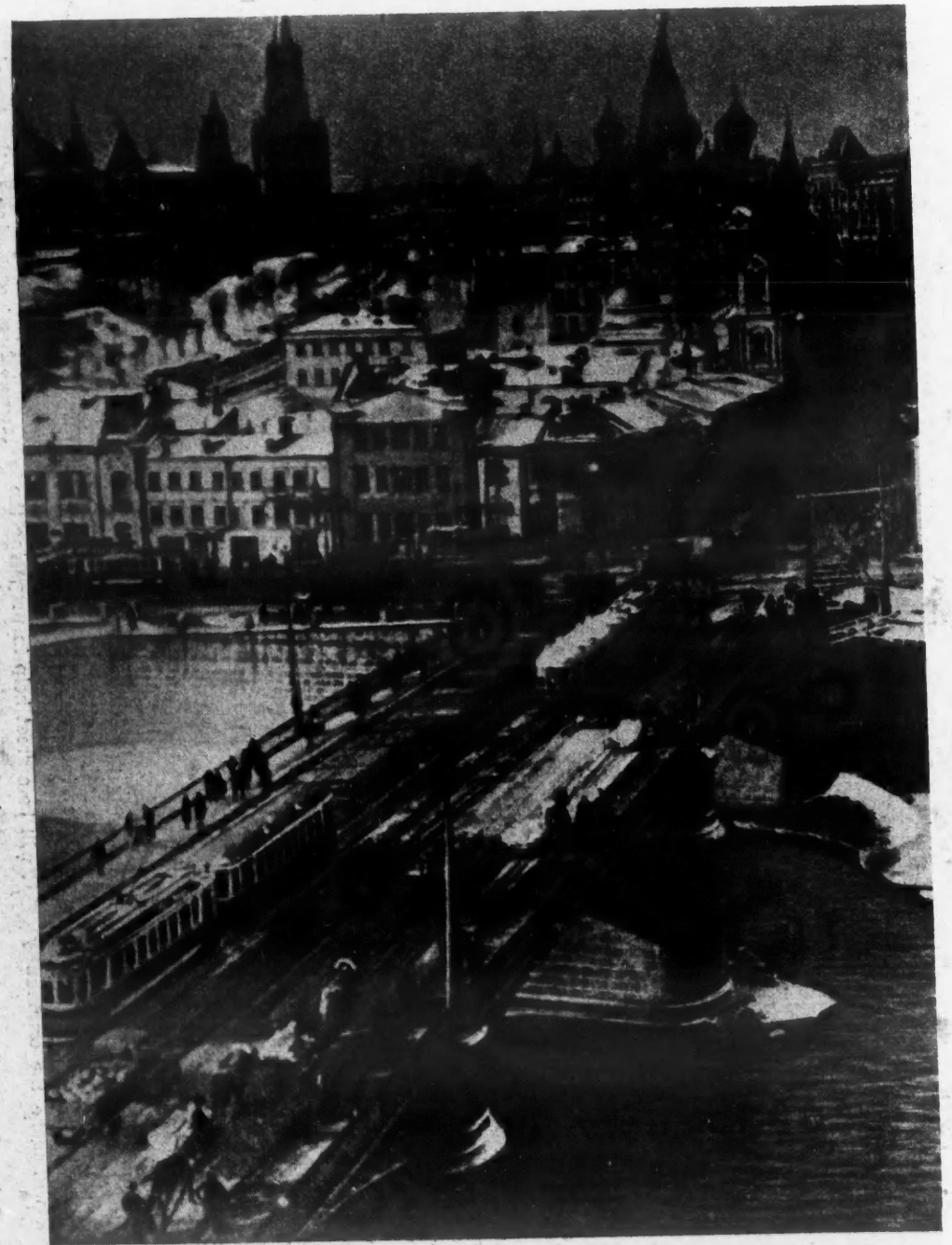
During the ten years between 1928-1937, over 200 towns were being planned, controlled by regional and design institutes in Moscow, Leningrad, and other large cities. Architectural planning bureaux were set up in lesser centres to carry out the detailed work. It is not to be assumed there were not mistakes or growing pains, and, in fact, many of the theories proved unworkable, but from these errors experience grew. Special legislation was passed in 1933, making the drafting of district and town plans obligatory for all inhabited centres, care being taken to embody local features and traditions.

All this and much more is dealt with by the author in some detail, and highly interesting it is, as also his description of the communal heating networks. Mr. Ling concludes: "The lesson of these 20 years is clear, town planning cannot be achieved overnight or *in vacuo*. . . . It is useless to draw up paper plans on the assumption that everything has been destroyed; towns, old or new, are living organisms which cannot be put to sleep while major operations are performed. Town planning is a continuous process, and the starting-points for progress are the immediate requirements of the people."

IN 1916.

From *The Builder*, December 8.

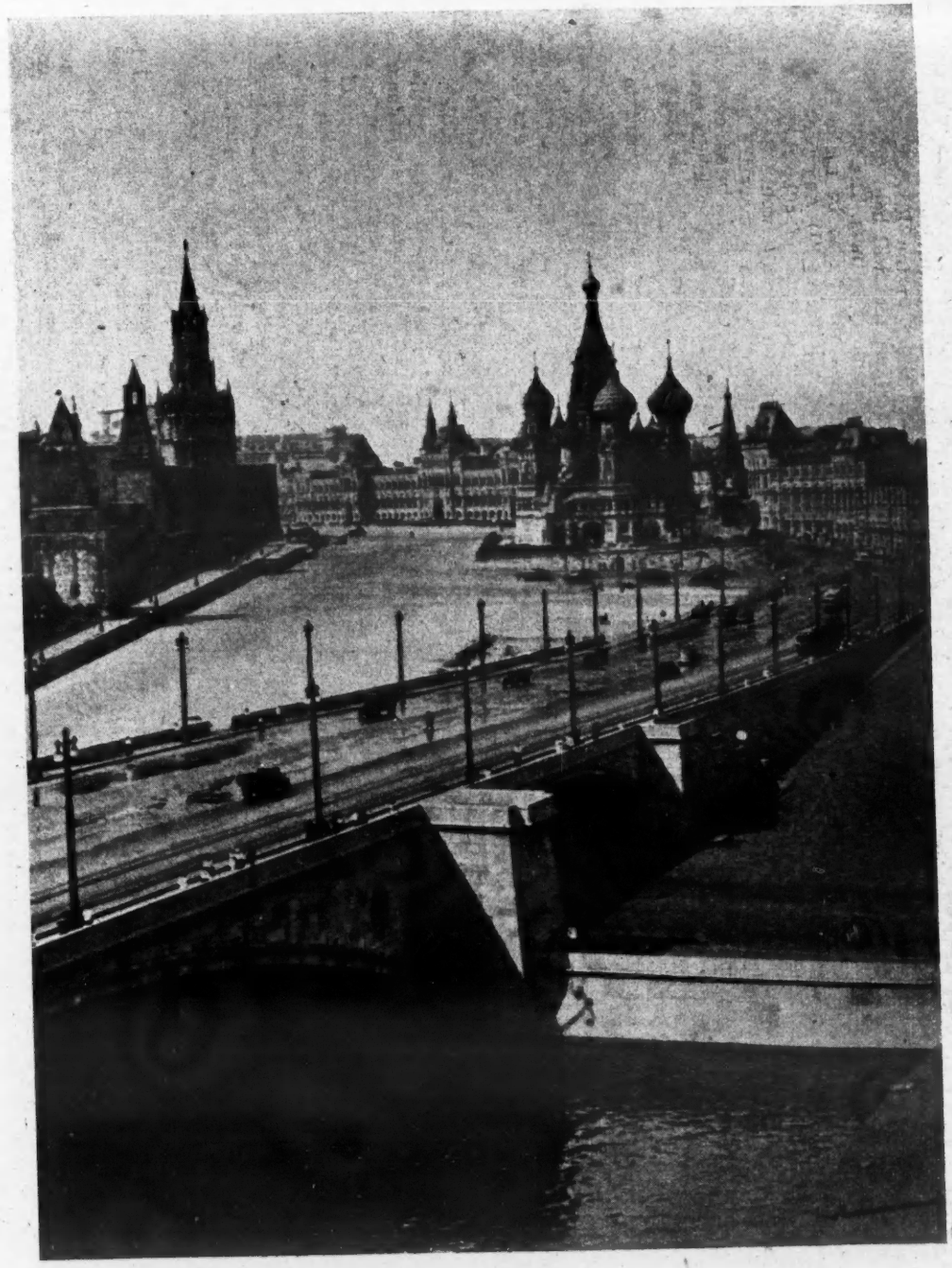
We do not know whether most enjoyment is to be obtained from conscious or unconscious humour, but expect that the last should obtain the palm. The fifth exhibition of the "London Group" is quite the most amusing thing in London at the present time . . . no book was ever written the absurdities of which could compare with the subjects depicted on canvas by the members.



Courtesy of Anglo-Soviet Journal.

RUSSIA, OLD

The old Moskvoretsky Bridge and the river-front as it was before the Soviets came to power—narrow, badly lit and with awkward traffic crossings. High land values prevented replanning, and a variety of nondescript buildings stood at the foot of the Kremlin walls.



—AND NEW.

The Moskvoretsky Bridge to-day. New granite embankments have been built; the traffic junction solved, and derelict buildings demolished. The Red Square now sweeps to the river bank. Between 1936 and 1938, eleven new bridges were built over the river.

(See page 524.)

CORRESPONDENCE

Strange Proposals.

To the Editor of *The Builder*.

Sir,—I believe it to be the prerogative of the Royal Institute of British Architects to safeguard the interests of architects in every possible way. It is also the right and duty of the Board of Architectural Education to prescribe the course of study for probationers and students. These and similar questions seem to have formed part of the policy of the Royal Institute for many years. Although the domestic policy of the Institute has been changed from time to time to suit different contingencies, there has been little difference of opinion among the ingenious leaders who form the Council or who serve on the different committees. There are, however, some who think it their business to meddle with affairs outside the walls of Portland Place. They conspire to regulate the trend of architecture by introducing a foreign element. This is bad enough when it assumes inquisitorial dimensions, but when those concerned go to extremes and suggest publicly that foreign architects should be invited *en masse* to rebuild England, then I think it is time for native architects to protest. The body of English architects will be in agreement that it is the duty of the Council to check those concerned from committing further follies.

This being admitted, it behoves all interested in the reconstruction of our cities to note the names of those signatories to the letter advocating the employment of Russian architects which appeared quite recently in the Press. Let any person of the group accused of this one-sided action answer my complaint. Their authority is on the whole interfering and biased. It is implied that Russian architecture is now to take the place of the Hebraic-German manner which prior to the war was held up as a pattern. Why must we look abroad for fresh fashions; why this zeal for work unsuited to our own soil? It is implied that contemporary Russian architecture is immeasurably superior to anything in this country. It is hinted that preference should be shown for a commercial and industrial expression of an order of society whose ideals are dissimilar to our own. Just as we were instructed to imitate Swedish architecture and then German, we are now directed to the neo-classicism of the U.S.S.R.

I enlist your aid, Sir, through the medium of your valuable paper to call the attention of all architects to the fact that their means of livelihood is yet endangered. Are we to suffer another outburst of art distemper, which is bound to ensue if a foreign style is imposed on our cities? If the Institute leaves its members unprotected, if they are restricted by the exigencies of the war from active practice, is it any comfort to the sufferers to be informed that foreigners will reap the reward of their patience and forbearance? This, then, is my argument. It is the duty of the Council of the Royal Institute of British Architects to ensure that *bona fide* members of the Institute are commissioned to design the buildings which will be required in the near future. Here is an end which, as all architects will agree, must be gained. I have no quarrel with Russian architecture, either ancient or recent, but I do object to the attempts which busybodies make to imitate architectural thought at will. We are unanimous in advocating a system of building control which will make the community wiser and happier. Opinion regarding speculative building, great and small, is relentless in its opposition to vulgarity. To me it seems only right that a country such as England, which in the past endowed the world with fine artistic thought, should not be fettered and shackled by foreign methods of design. Properly speaking Russian architecture in Europe begins with the activities of Peter the Great. During the eighteenth century it developed under the guidance of Italian, French and Scottish architects. A great classical tradition was built up which resulted in the adornment of Leningrad, Moscow and Kalouga under the Czars. Since then the Russian have striven to recapture the spirit of this tradition, which is mainly Russian by adoption. Can we think, without feelings of remorse and deep shame, of copying a pastiche of architectural expression which any of our earlier masters inspired?

Reverting to misdirection, I wonder how many highbrows in England ever give a thought to the truth that the works of William Morris inspired the architects of Sweden and Denmark. It is not in England that the full influence of the pioneers of taste finds support, but almost invariably it is dear abroad. Then late in the day our photographers discover the "new style" and we proceed to imitate it in a half-hearted way. Such is the story of architecture during pre-war years.

I would earnestly entreat every architect who is an artist and a student to beware of loose talk and gratuitous advice from quarters which have no authority. I would go further and would ask that representations be made by all to check harebrained schemes which self-appointed champions put forward. My confidence in the value of English architecture is strengthened when I recall the illustrious names and the highly meritorious work of Englishmen. It would be useless to cite the many venerable names or to give a list of the buildings in an age such as this. What is at the back of this *volte face* on the part of the discontended petitioners who would have our Russian allies design for us? I can only think of one reason. No longer is it possible to obtain foreign recruits from France, Italy, Holland or other enslaved states. The public is in no mood for German architecture. Is it not a confession of weakness, nay of ineptitude, that a group should in all seriousness invite the majority of architects to commit professional hari kiri?

No, Sir, it will not be done. One of the oldest and earliest laws is self-preservation. Can the group mention a single instance in the architectural history of England when this country has proclaimed to the world that it is incapable of conducting its own affairs? Shades of Wren and his school, memories of William of Wykeham, of the ancient Britons under the Roman yoke, why are we so despairing? Such, Sir, is my plaint, and I trust you will find space to print it.

Cambridge. A. E. Richardson.

R.I.B.A. Panel of Lecturers.

To the Editor of *The Builder*.

Sir,—The R.I.B.A., recognising the increasing public interest in architecture and its place in reconstruction, is preparing a panel of lecturers, which it is hoped will be a large one, sufficiently dispersed to cover the whole country. It is suggested that the scope of the lectures should include: (a) reconstruction; (b) appreciation of architecture; (c) the architect's interpretation of historical subjects.

It will be a great help in preparing the panel if architects and others, who could lecture to lay audiences, would send their names to the R.I.B.A. with any suggestions that will help to build up a programme of lectures. The following information would also be useful in allocating a lecturer: (1) Any previous experience; (2) type of subject preferred; (3) whether lectures would be given at a distance as well as near the lecturer's home; (4) whether lectures could be given in the day time or in the evening.

A suitable scale of fees is being considered.

Correspondence should be sent to Mr. Daniel Roth, A.R.I.B.A., secretary of the Lectures Sub-committee at Rossetti House, Hallam-street, London, W.1.

Jane Drew,
Hon. Secretary, Public Relations Group.

Westminster's Paper Salvage Collection.

To the Editor of *The Builder*.

Sir,—I have gratefully accepted the generous offer of an anonymous donor to give to charitable organisations for seamen, soldiers and airmen the sum of £10 for every ton of paper collected in the City of Westminster during the week commencing Monday, December 15.

The necessity for this national effort calls for no emphasis on my part. I am certain that there are many tons of unwanted books, technical journals, paper and cardboard still lying dormant on your shelves, in your filing cabinets, and in your strong-rooms. The country needs urgently every old ledger, letter-book, invoice or receipt, all old correspondence, and what else your firm can produce—and now.

There is the added incentive that, if you will organise immediately the necessary arrangements for turning out during this week every scrap of paper that is superfluous, or can be sacrificed, it will result in a substantial contribution towards the benevolent funds for the three Services to whom we owe so much.

If you have any arrangements for the collection or disposal of your surplus paper through the usual waste paper merchants, please let this continue, but add to the amount they collect. The merchants will notify us of the weight that has been collected from you. All I ask is that your house should make an exceptional effort during this very special week, so that this weight may be added to our figures and so increase the gift to be claimed for the Services Funds.

Loud-speaker cars will tour the streets during the week to give full information as to this scheme, and if you desire any further information or assistance, it can be obtained on application to the Salvage Officer, Alhambra House, Charing Cross-road, W.C.2 (telephone: Abbey 5328).

I appeal most strongly to you to support Westminster's effort to obtain every available pound of waste paper and at the same time reap many pounds for the benefit of our gallant Services.

W. Stanley Edgson,
Mayor of the City of Westminster.
Westminster City Hall, W.C.2.

*** We are glad to support this appeal by the Mayor of Westminster. *The Builder* has already turned out its old waste paper, and current accumulations are disposed of at regular intervals We urge those of our readers who have not already done so to get rid of their surplus paper immediately, especially those whose offices are in Westminster, who can help to make the Mayor's appeal on behalf of the Services' Benevolent Funds the great success it deserves to be.—Editor.

[Correspondence is continued on page 537.—Editor.]

AN ARCHITECT'S VIEW OF RECONSTRUCTION

3.—CITIES, AS THEY ARE.

By H. V. LANCHESTER, F.R.I.B.A.

It is appropriate to open the review of present conditions with the consideration of our larger cities, in the form of a study as to the manner in which they have grown up. The initial reasons for their expansion are obviously beyond the scope of our inquiry, involving comprehensive studies which would, in fact, only terminate in an economic history of Great Britain, mostly available to those who feel that this is where they should begin.

Our question for the moment is not Why? but How? and the first axiom is that a city and its growth is mainly influenced by topographical conditions, such as levels, waterways, supplies, etc. Accepting this, we can pass on to a rough classification of the various forms city growth has taken and find that the predominant one is an irregular star having the position of its rays determined by the valleys or other lines for communication.

Taking the cities of this type more or less according to size, we find Glasgow with a population of 1,100,000, requires a diameter of some six miles, but extends a good deal further down the Clyde by reason of the important industries there. Liverpool is more detached from Birkenhead and the adjacent towns by the greater width of the Mersey and stretches along the north-east bank for over 10 miles with a depth rarely exceeding three miles. Manchester (with Salford) and Birmingham both hold about 1,000,000 people and extend to a diameter of about seven miles, though Manchester is rather more compact than the Midand city. The cities ranging from half a million down to 200,000 can be grouped as follows: Leeds, Sheffield, Edinburgh, Belfast, Bristol, Bradford, Nottingham, Leicester, Coventry. The diameter of these ranges from five to three miles, but Sheffield is more triangular than star-shaped owing to its possessing only three good approach lines.

Newcastle and Hull (each about 300,000) vary somewhat from the general type, having long water frontages, but the former, with Gateshead, dominates the Tyne on both sides, while Hull is emphatically a waterfront town, the Humber being a definite southern limit. Most of our seaside pleasure resorts have sites of this type. The sites of Plymouth, Portsmouth, Southampton and Cardiff have, on the south, east and west either the sea or river estuaries, and therefore any extensive development would be towards the north. Southampton and Cardiff approximate to a triangle in outline with the docks occupying the angle pointing south.

Having roughly indicated the mass of these main cities, it is necessary to offer an impression of their special characteristics under the heads of Administration, Commerce, Industries, Communications, Housing and Recreation.

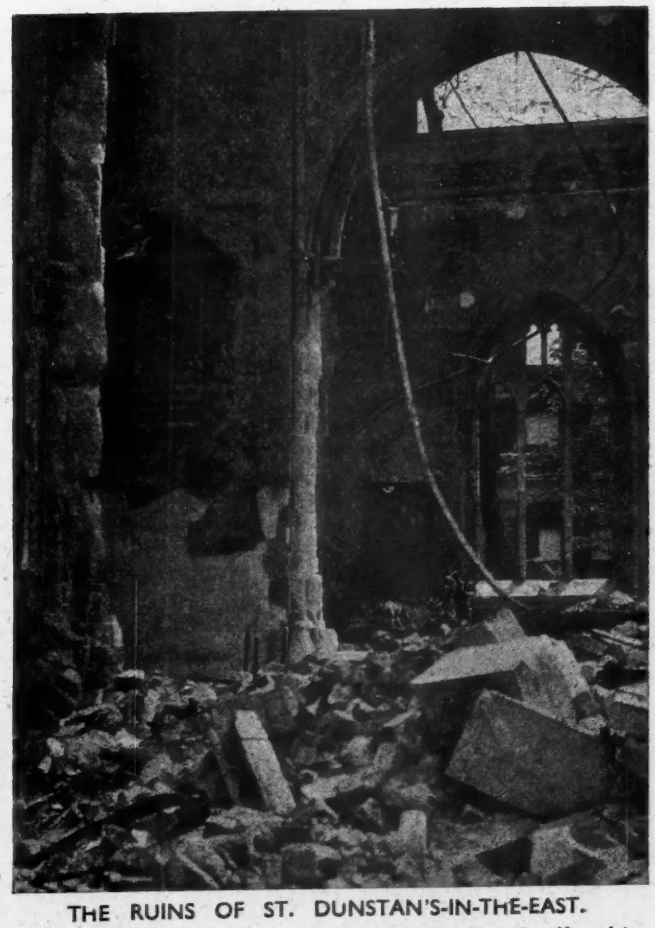
Glasgow, Liverpool, Manchester, Leeds, and Belfast have long established administrative centres not far from their original location. At most of the other places there is no adequate "Civic Centre," but at Cardiff, Southampton and Swansea new sites have been occupied some distance from the old centre of the town, thus affording a spacious and dignified layout. Similar action is being taken at Newcastle, and is under consideration elsewhere. Birmingham was able to secure a large area near its old centre which fully meets its requirements, and it is more than probable that recent destruction will afford opportunities for this in several other towns.

The Commercial Centre, including the large stores, the banks, professional offices, etc., need not necessarily surround the civic centre, but should not be far from it as this would result in waste of valuable time, though, of course, when remodelling is extensive, the commercial activities can, and will, be pulled in the direction of the administrative ones. True, the main railway stations will be in competition, but it should be possible to provide that both these centres should not be too far apart. In Glasgow, Edinburgh, Liverpool, Manchester and Birmingham this condition is fairly well met, but at some other places less successfully. As a generalisation it may be assumed that the commercial centre will need about one acre for every 1,000 of the total population.

The major industries in the various great towns are so specialised that it is impossible to lay down any general principles as to the degree of segregation and distribution possible. Water, rail, and road transport all come into the picture with varying importance according to the type of industry under review. All heavy industries must have their definite location to secure the necessary services as economically as possible and cannot be pitched down on any site that happens to be vacant. Especially destructive to amenity is the haphazard alternation of factory and housing such as has so often taken place in the past. A more general distribution can be accepted for light industries such as we see in Birmingham, but even these demand more care than has been given to ensure the location best meeting the demands of economy and the amenities. It is obvious that the heavy industries will range themselves along the best lines for transport, rivers, canals, railways and main roads, a course which may be acceptable if provision can be made separately for the needs of those requiring to move about in the city. As far as possible industrial transport should be organised as a distinct entity. This problem will be considered later on.

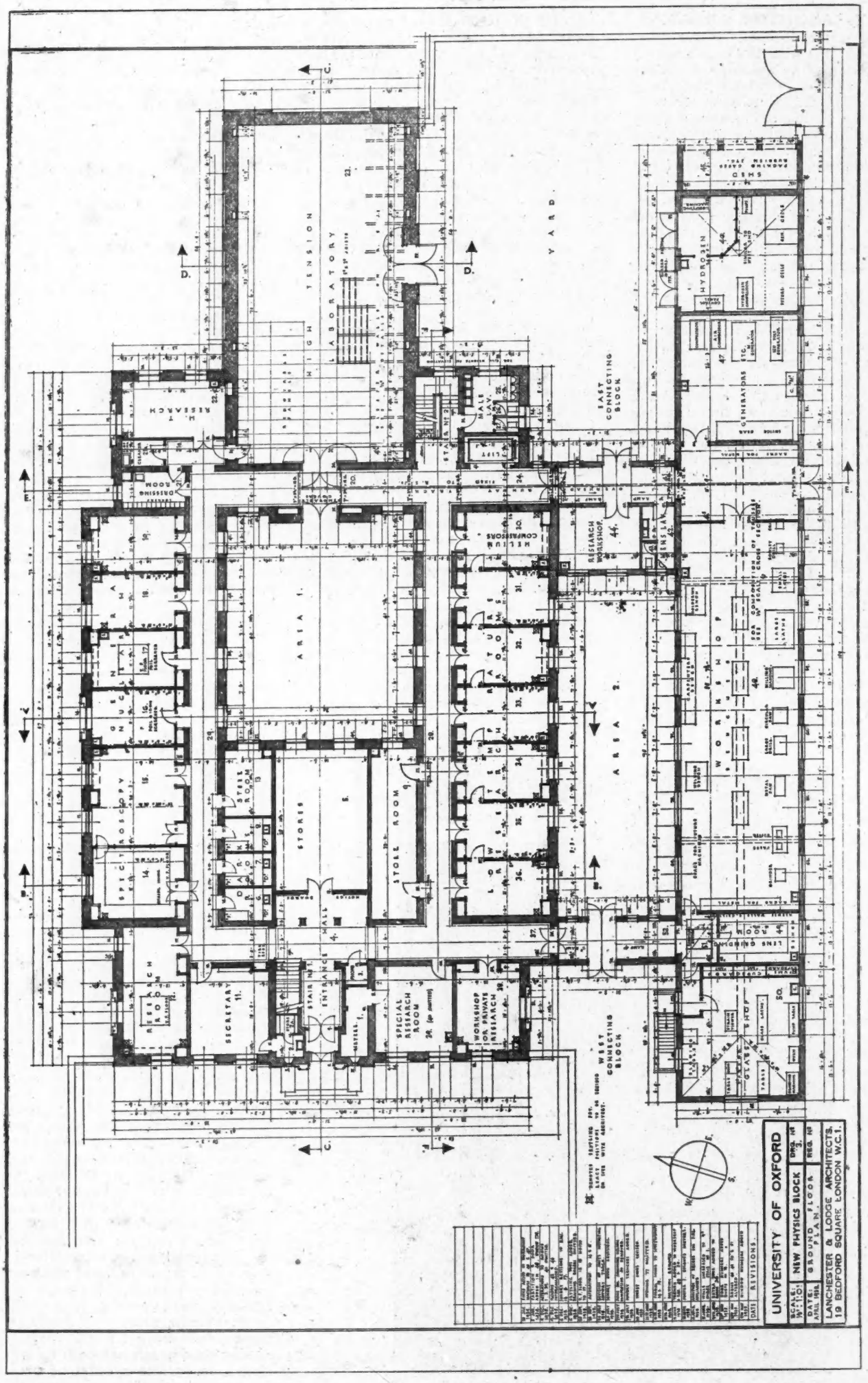
The defective planning of the areas around the city centre has already been referred to; this area or zone is in the main devoted to the housing of the working people, and is a densely built-up ring around the commercial and business section, the inner edge being gradually pared away by the demands of business, and the outer spreading into the open country to provide for this loss and the increase in the population. Among the mass small factories and workshops are mixed up, also the usual auxiliary requirements such as churches, chapels, schools, small shops, etc. What is rarely to be found is an adequate proportion of open space for recreation, as the need for this was only realised much later than the bulk of this development took place. It is in this zone that the demands for reorganisation and reconstruction are most active, and while it would be unimaginable to deplore that so little destruction has taken place here, it would be hardly less cruel to assume that we ourselves are unprepared to take vigorous steps to amend what has long been the worst feature of our great towns.

It need not be inferred that during recent years our municipalities have not done very fine work in providing better housing and good provision for open-air recreation, nor have spent what may then have been regarded as large sums very skilfully, but anyone picking up the map of the larger towns will see how little these efforts have affected the unprepossessing zone which has been under discussion here. Quite a different programme is required for this—one that visualises another kind of city, and it is incumbent on us to find how this city would be devised. *(To be continued.)*

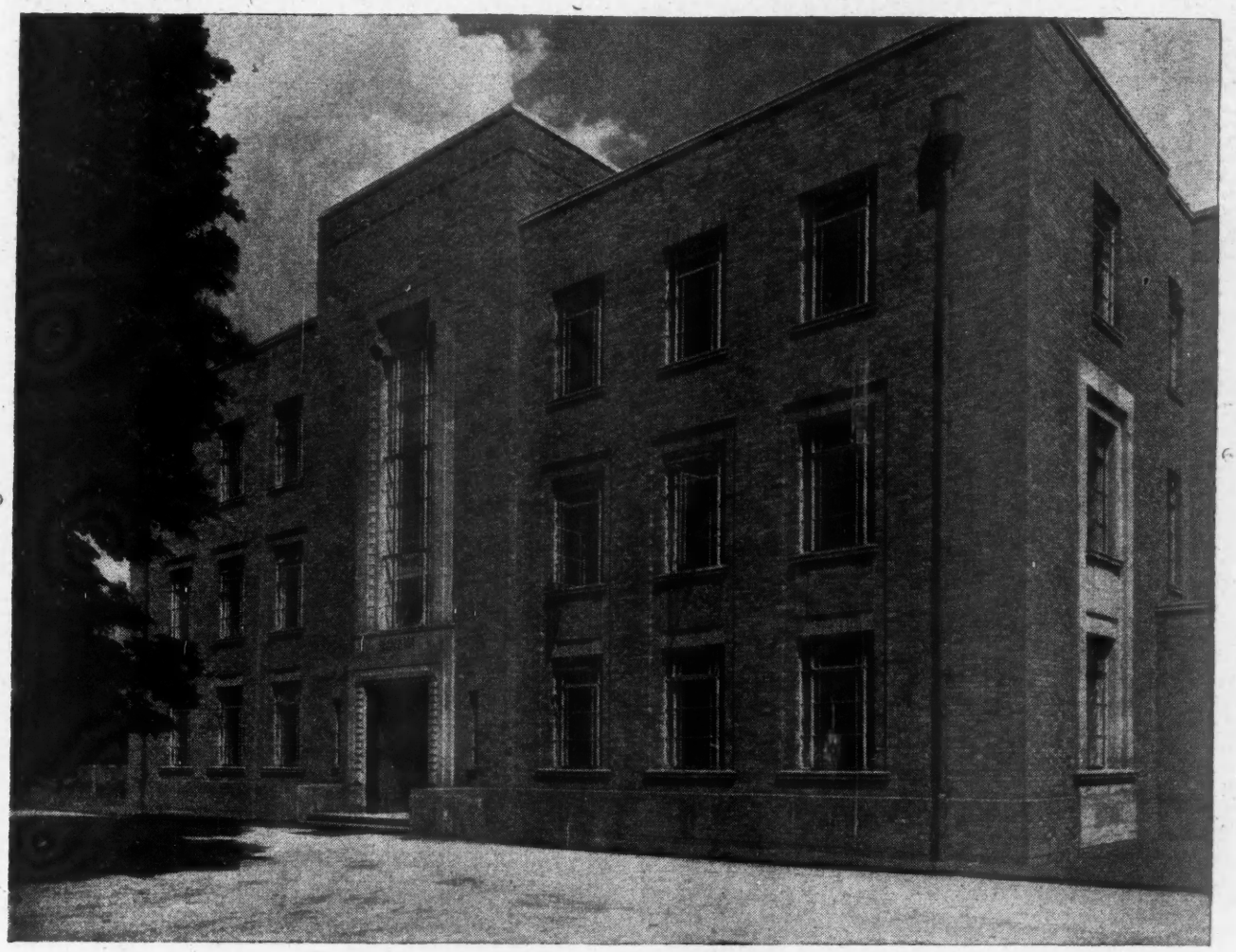


THE RUINS OF ST. DUNSTAN'S-IN-THE-EAST.

Our illustration (which is from "The National Survey of Churches" and is reproduced by courtesy of the Central Council for the Care of Churches) shows the condition to which this interesting church has been reduced by Nazi bombing.



NEW PHYSICS BLOCK, UNIVERSITY OF OXFORD. MESSRS. LANCHESTER, LODGE AND DAVIS, FF. & A.R.I.B.A., ARCHITECTS.



THE ENTRANCE FRONT.

NEW PHYSICS BUILDING, UNIVERSITY OF OXFORD

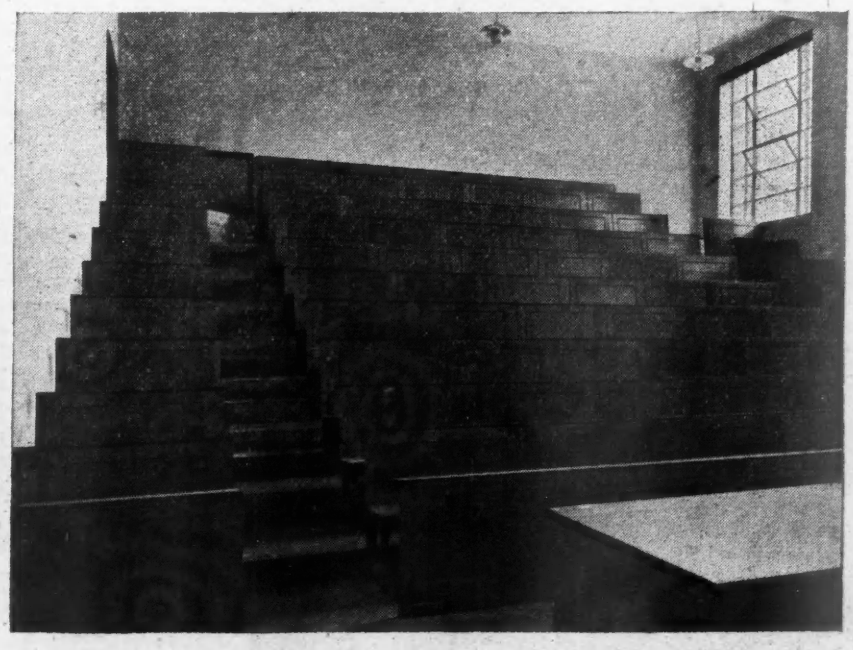
MESSRS. LANCHESTER, LODGE & DAVIS, FF. & A.R.I.B.A., ARCHITECTS.

THIS BUILDING COMPRISES, ON THE ground floor, a large high-tension laboratory, and a series of research rooms in the main block. Adjoining this, and attached thereto by covered ways, is the large workshop, glass shop, room for generators, and hydrogen plant, this latter building being entirely disconnected to prevent vibration from the machinery reaching the main block.

On the first floor is the large lecture theatre facing the main entrance, further research rooms, professors' rooms, etc.; and on the top floor a big laboratory for teaching, and other small laboratories.

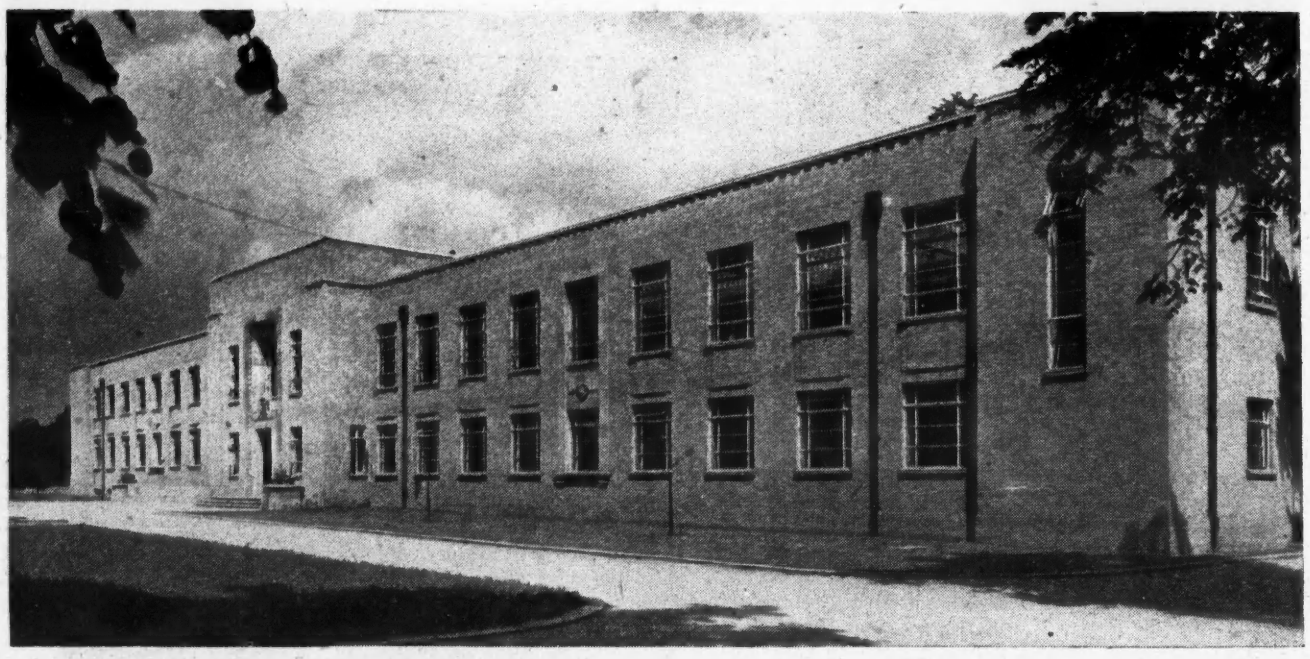
The building is constructed of buff-coloured brick, omitting steel as far as possible. Floors are of Kleine construction, and the roof of the same construction covered with "Paropa." The floor coverings generally in corridors are rubber, and in the rooms teak block. The main staircase is in terrazzo, and the minor stairs in granolithic. The windows are in metal, and the doors throughout are of the flush hospital type, painted black, the inside surfaces of which are of a flat texture so that they may be used as blackboards.

The general contractors were Messrs. Benfield & Loxley, Ltd., of Oxford. A list of sub-contractors and suppliers engaged upon the work is given on page 539.



THE LECTURE THEATRE.

PHYSICAL CHEMISTRY BUILDING, THE UNIVERSITY OF OXFORD

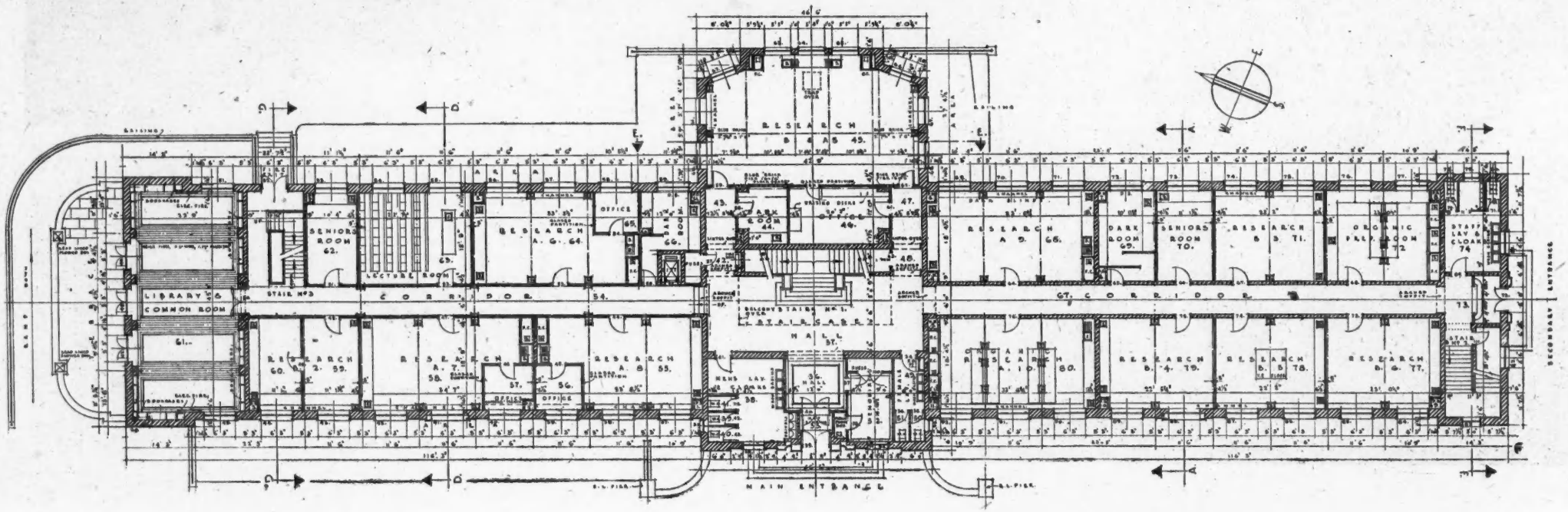


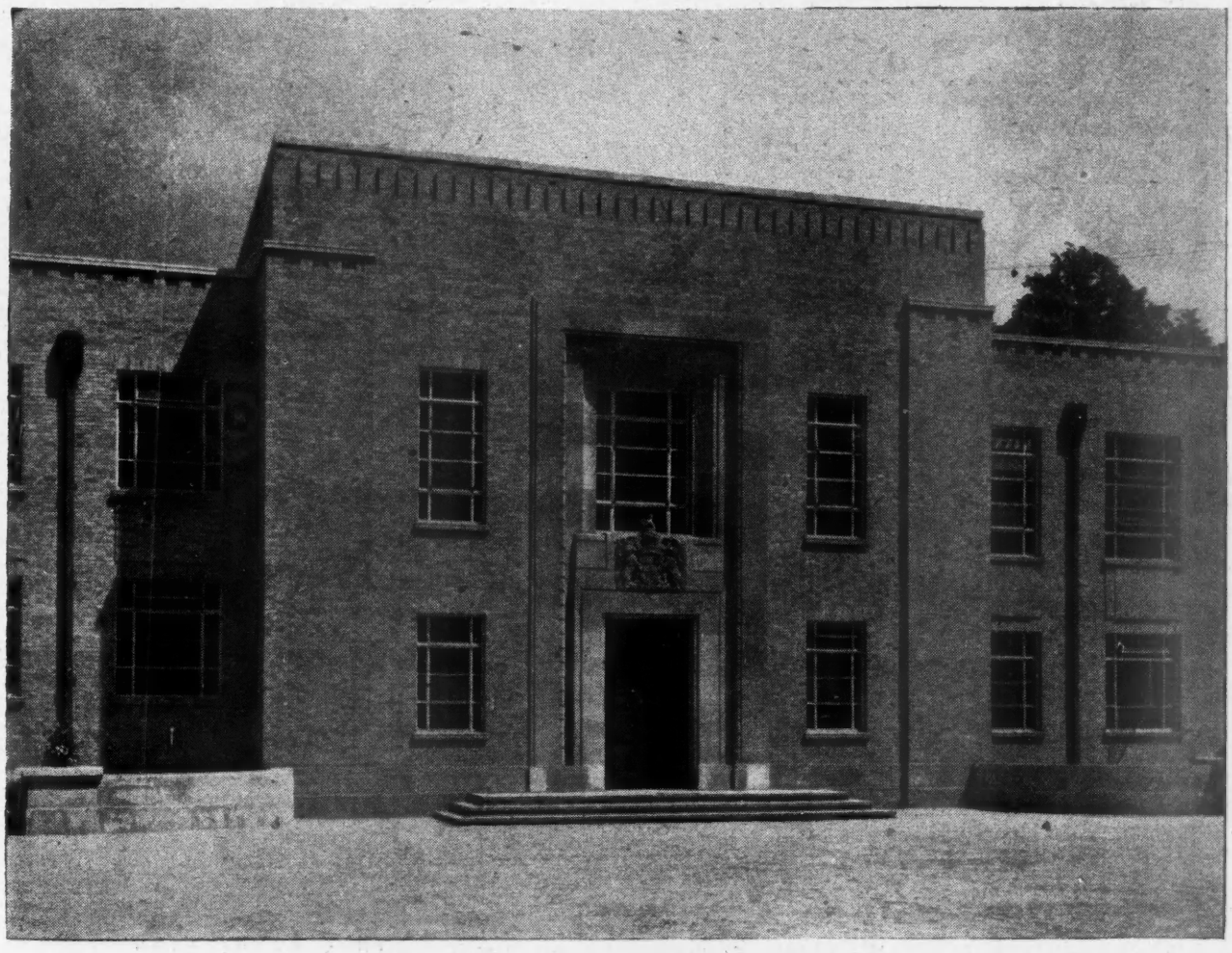
THE MAIN FRONT, FROM THE SOUTH. *Below* : GROUND-FLOOR PLAN.

PRIMARILY FOR RESEARCH WORK, THIS BUILDING PRESENTED some difficulty in design owing to the fact that it was necessary to include three storeys on the north wing and only two on the south wing. The ground floor consists of a large double central staircase with a subsidiary staircase at either end, also a library and common room at the north end, the remainder of the plan being occupied by research rooms.

On the first floor, in the centre of the building, is the large lecture theatre, whilst at the south end is a big teaching laboratory, and at the north end rooms for the professors and further research laboratories. This building is adjacent to the Physics Block, and forms part of the same architectural scheme. It is constructed of buff-coloured brick, omitting steel as far as

MESSRS. LANCHESTER, LODGE AND DAVIS, FF. AND A.R.I.B.A., ARCHITECTS.

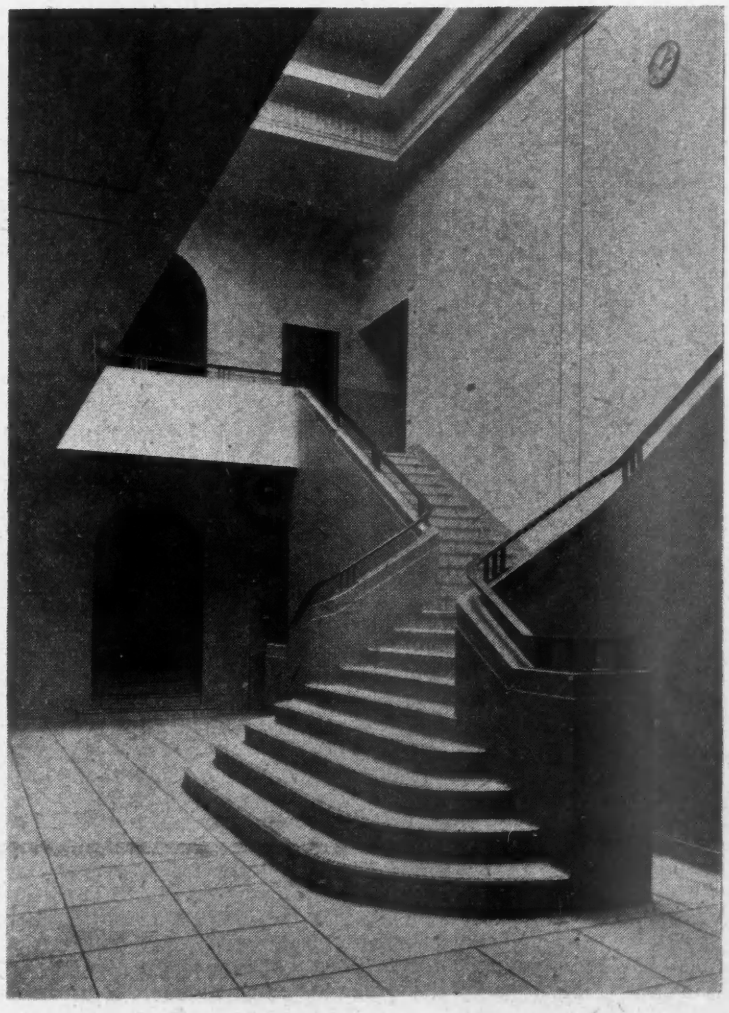




DETAIL VIEW OF MAIN ENTRANCE. *Below*: STAIRCASE FROM HALL.

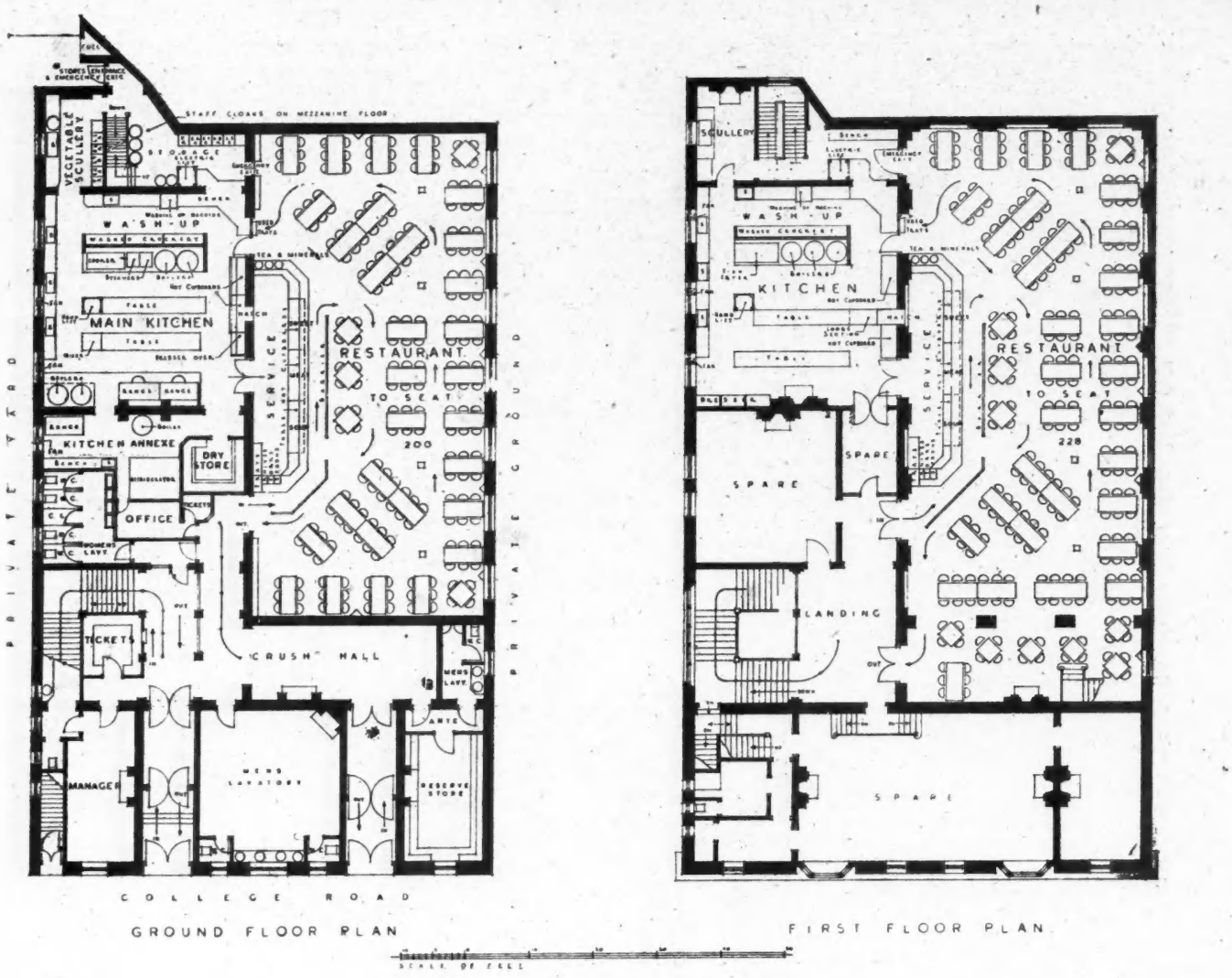
possible. The floors are of Kleine construction, covered with "Paropa." Floor coverings generally in corridors are rubber and teak block in rooms. The main staircase is in terrazzo and the minor stairs in granolithic. Windows are metal and flush, hospital-type doors have been used throughout, painted black. The inside surface of the doors is of a flat texture to enable them to be used as blackboards.

The general contractors were Messrs. Benfield and Loxley, Ltd., of Oxford. Sub-contractors were: Floors, Caxton Floors, Ltd.; lifts, Bennie Lifts, Ltd.; metal casements, Crittall Manufacturing Co., Ltd.; electrical installations, Bective Electrical Co., Ltd.; mechanical services, W. Richardson and Co., Ltd.; roof lights, Lenscrete, Ltd.; sculpture, W. B. Fagan; flush doors, panelling, J. P. White and Sons; sinks, etc., Tylors, Ltd.; wood flooring, etc., Hollis Bros. and Co., Ltd.; lay-lights, balustrade, etc., Starkie, Gardner, Ltd.; terrazzo, Diespeker and Co., Ltd.; acoustics, May Acoustics, Ltd.; blinds, J. Avery and Co.; linoleum, Inlaid Ruboleum Tile Co., Ltd.; rubber flooring, St. Helens Cable and Rubber Co., Ltd.; ducting, Turner's Asbestos Cement Co.; roofs, Frazzi, Ltd.; ironmongery, Robert Adams, Ltd.; fibrous plaster, Allied Guilds, Ltd.; marble surrounds, Bratt, Colbran, Ltd.; lettering, name-plates, etc., James Gibbons, Ltd.; blackboards, North of England School Furnishing Co., Ltd.; and carving, W. Bloye.



PHYSICAL CHEMISTRY BUILDING, UNIVERSITY OF OXFORD.

MESSRS. LANCHESTER, LODGE AND DAVIS, FF. & A.R.I.B.A., ARCHITECTS.



BRITISH RESTAURANT, NEWCASTLE-UPON-TYNE

MR. R. G. ROBERTS, F.R.I.B.A., CITY ARCHITECT.

THE CITY OF NEWCASTLE MAY HAVE been a little slow in following the present-day fashion of establishing British Restaurants, but the reason no doubt is that up to the present it has devoted much attention to the establishment of communal feeding on a "cash and carry" basis, and is now providing on this basis daily meals for a large number of people. It may be of interest, nevertheless (writes Mr. Roberts) to record a brief account of Newcastle's first British Restaurant, which has now been operating since the end of September at the Grand Assembly Rooms, Barras Bridge.

This building, centrally situated in the city, is well suited to the purpose, since in the piping days of peace it was entirely used for dances, dinners and the like. It is so designed that both on the ground and first floors entirely separate functions could be catered for at the same time, and the building was therefore requisitioned with every confidence that it would serve the purpose in view. With the object of testing the demand for such facilities in the particular neighbourhood it was decided in the first place to equip the ground floor only. This floor comprises a spacious entrance, and a dining-room containing tables to seat 200 persons comfortably after taking off the space required by a serving counter some 45 ft. in length, the counter being supplied direct from the adjacent roomy kitchen.

It was anticipated that between the hours of noon and 2.30 p.m. some 800 people could be catered for, but in fact the average sale of meat courses is about 1,100, and since some little waiting for admittance is unavoidable, and potential customers are thereby lost, it has been decided to duplicate the accommodation on the first floor, so that it will be possible without any trouble or discomfort to serve no fewer than 2,000 meat courses in the lunch period without entire duplication of the cooking facilities already installed.

The restaurant, when completed, will, in effect, be run as two separate restaurants, with separate entrances, pay-desks, etc., but the internal arrangements allow for the diversion of patrons on entering to equalise the demands on the two floors.

The success of such a restaurant, catering as it does for the largest possible number of people in the shortest time, depends upon a smooth and quick service, both at the ticket-office and at the counter, and upon the proper queuing of patrons. From the ticket-office patrons pass immediately to one end of the counter where trays and cutlery are served, and from there, along the counter, they receive in exchange for their tickets, soup, meat course, sweet course, and tea, in succession. After finishing their meal at the lino-covered tables, patrons take their own trays to a wash-up hatch, where they are received and the crockery immediately passed through the washing machine for further use.

All food, with the exception of soup, which is served at the counter, is served in the kitchen on to heated plates, and from there transferred, in advance of requirements, to gas-heated hot cupboards under the counter, each plate being supplied with a cover to prevent the drying of the food. In order to provide for emergencies, cooking is by coal, gas, and electricity, and an ample refrigerator has been installed.

It was found that the existing electric supply was by direct cur-

rent, and since all electrically operated kitchen equipment is normally fitted with A.C. motors it was necessary to bring A.C. current from a considerable distance to provide a supply. The D.C. lighting, however, has been retained, and both in lighting and general furnishing every effort consistent with economy has been made to render the restaurant as bright and cheerful as possible.

The difficulty in this as in other similar institutions has been that of obtaining the necessary equipment, and the work of the restaurant is still handicapped by the absence of fans and other electrically driven appliances.

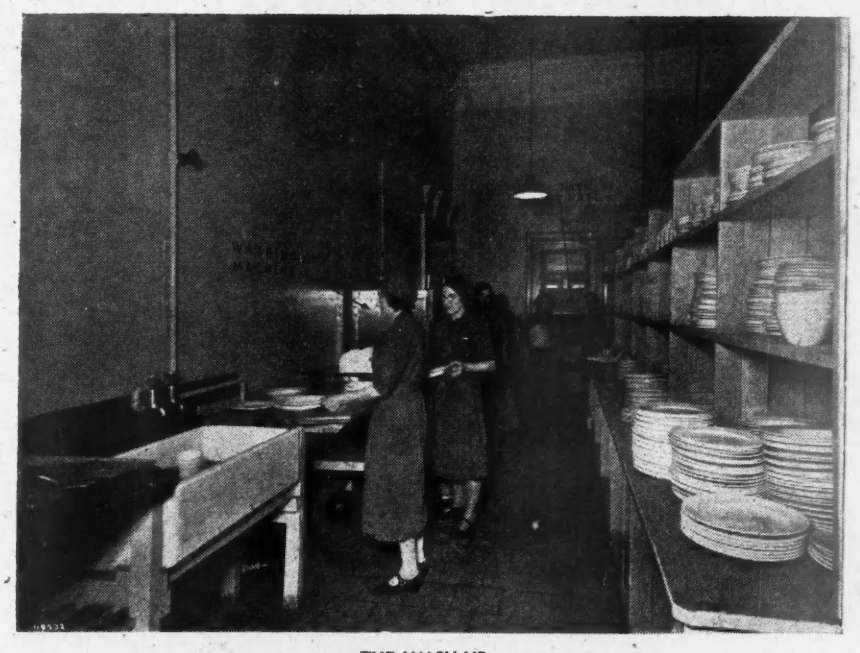
The charges made for the mid-day meal are: for soup 1d., meat and two vegetables 7d., sweet 2d., tea 1d., and these charges, whilst perhaps being slightly higher than those in some areas, are evidently recognised as anything but exorbitant for the excellent fare provided.

The Corporation are now encouraged to provide similar restaurants in less central areas, realising that, apart from the national saving effected by the concentration of fuel and labour in cooking, and the difficulties experienced by households in providing their members with mid-day meals to be taken from their slender rations, the health of the community must greatly benefit by the ability of the workers to obtain at small cost so nourishing a meal.

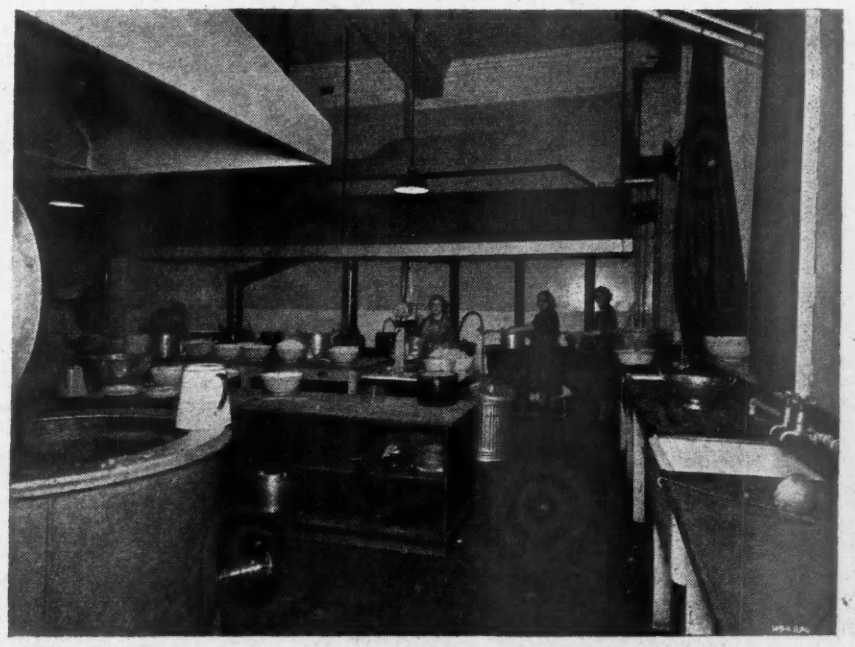
It seems clear that among the many revolutionary ideas foreshadowed for adoption after the war the mass feeding of workers on some such lines is one that will demand a permanent place in our national economy.

The builders were Messrs. J. & W. Lowry, 50-64, Corporation-street, Newcastle-upon-Tyne, 4; and subcontractors were: heating and plumbing engineers, Rowells (1924), Ltd., Byron-street, Newcastle, 2; electricians, Robson & Coleman, Ltd., 13-15, Simpson-street, Newcastle; painters and decorators, R. J. Richardson, Ltd., Eldon-place, Newcastle; kitchen equipment, the Peerless Electrical Manufacturing Co., Ltd., The Hyde, Hendon, N.W.9; and refrigeration plant, H. C. Troldahl, Ltd., 40, Scotswood-road, Newcastle.

RESTAURANT, LOOKING TOWARDS SERVICE COUNTER.



THE WASH-UP.



THE MAIN KITCHEN.

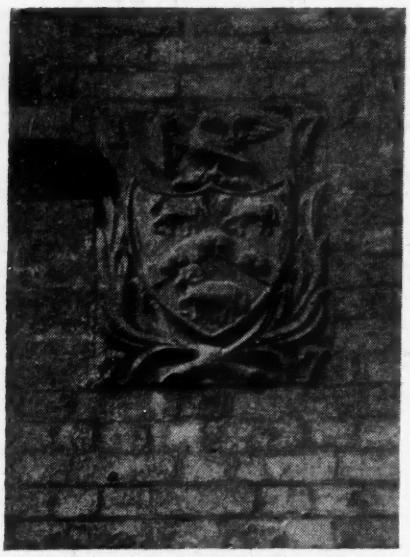
BRITISH RESTAURANT, NEWCASTLE-UPON-TYNE.

MR. R. G. ROBERTS, F.R.I.B.A., CITY ARCHITECT.

BOUNDARY MARKS

AN ECCLESIOLOGICAL SOCIETY LECTURE

THOUGH much has been written about London signs, much new material for London's history may still be gathered from a long-overdue study of property and parish boundary marks, as was shown in a lecture delivered to the Ecclesiological Society on November 8, in the Hall of the Art Workers' Guild, 6, Queen-square, W.C.1, by Mrs. J. D. Ellis, M.A. Mr. Chisholm Simpson presided. The paper was illustrated by slides made by Mr. Edward Yates, F.S.A., from his own photographs. A manuscript of the article on which the lecture was based will be deposited in the library of the R.I.B.A. pending publication.



All photos. by Edward Yates, F.S.A.

FIG. 1.—ARMORIAL PLAQUE ON WAREHOUSE, UPPER THAMES STREET.

The lecturer said that these marks were usually at first- or second-floor level, and were of various dates; 1615 was the earliest mentioned. Property marks resembled parish ones and could sometimes be distinguished only by their location in the parish.

The following five points may be chosen for their outstanding interest:—

(1) Two armorial plaques dated 1777 (Fig. 1) on a warehouse in Upper Thames-street may henceforth be recognised, with the kidney-shaped charge, as having been set up by Benjamin Kidney, merchant and skinner, whose monument has survived the destruction of St. John Horsleydown, though its inscription was shattered.

(2) The Corporation of Basingstoke had derived some valuable property "near the Old Swan Inn in the City of London" from a bequest made by Sir James Lancaster, General of the Fleet of the East India Company in 1599*; it owed the rescue of the property marks from these blitzed and demolished premises to Mrs. Ellis, Mr. Yates, and another.

(3) A rare property mark of St. Stephen, Coleman-street, was unfortunately not saved when the ruined "Vicarage House" (35, Coleman-street) was demolished after enemy action, though luckily its fellow remains intact on the house next door. This house, No. 34, Coleman-street, also displays a fine stone carving of the cock on the hoop, dated 1754 (Fig. 2). This badge of St. Stephen, Coleman-street, seems to have a secular origin and to commemorate a legacy to the church in 1431 of a brewery in Coleman-street called the Cock on the Hoop.

(4) The initials G.M. I.R. at the four corners of the boundary marks of St. James, Duke's-place (Fig. 3), were proved after devious researches to commemorate the consecration of that church in 1623 by George Mountain, Bishop of London, who named it in honour of James I.

FIG. 2.—PROPERTY MARK AT 34, COLEMAN STREET, E.C.

FIG. 3.—BOUNDARY MARKS OF ST. JAMES, DUKE'S PLACE AND ST. KATHARINE CREE.

(5) The Broad Arrow in Brushfield-street (Fig. 4) is a boundary mark of the Old Artillery Ground, "whereunto the gunners of the Tower do weekly repair, namely every Thursday." The date 1682 marks the sale of this Liberty of the Tower by the Crown for building purposes; "ever since the building thereupon," the "Royal Mark, His Majesty's Tower Mark" was set up on all the boundary houses by special command of King Charles II. When Bishopsgate Institute was being built, the two Broad Arrows in Brushfield-street enabled the surveyor to define the boundaries of Bishopsgate and the Borough of Stepney for rating purposes, as the Institute is rated in part by the City and in part by Stepney.

* See G. W. Willis, "Maidenwell and Basingstoke Corporation Estates: Ancient Benefaction of Sir James Lancaster," in *Hants and Berks Gazette*, Basingstoke, March 17, 1939.

FIG. 4.—BOUNDARY MARKS OF OLD ARTILLERY GROUND AND ST. BOTOLPH, BISHOPSGATE, BRUSHFIELD STREET.

Many examples had, laudably, been reaffixed to modern structures after rebuilding. In one case there were two dates—one the original, the other that of renewal.

The lecturer deplored the previous neglect of these landmarks, and the absence of any authoritative survey, with the consequent loss without record of destroyed examples. (Private enterprise, she said, is sometimes more mobile than official good-will in the race against the demolition squads!)

Mr. Edward Yates followed with an account of his rescue of the Basingstoke mark, touched upon by the lecturer.

The Rev. P. D. Ellis, Rector of St. Mary Aldermanbury, spoke of the pre-war union of benefices and the abolition of tithe remuneration consequent upon the total demolition of the buildings in the most damaged parishes, based curiously on tenancies, not ground rents.

Mr. Eaton, churchwarden of St. Magnus, spoke of the boundaries of the riverside parishes along the middle line of the Thames, and the mark on the City side of a lamp-standard in the middle of London Bridge.

There were also present Mr. Quintin Waddington (Curator, the Guildhall Museum), Mr. L. C. Wharton (British Museum), Mr. Gerald Cobb (heraldic artist, who is about to publish a work containing his water-colours of the churches), and other distinguished antiquaries.

The company then proceeded to tea, and in conversation it was mentioned that the marks were very numerous, so as to make a simple small-scale map of their positions impossible; that house signs served the purpose of identification, when street numbering was unknown, and have survived in publishers' signs; that insurance companies' signs started later; and, among books on related features, there were Philip Norman's "London Signs and Inscriptions," more general, and Hilton Price's "Signs of Old Lombard Street," 1902, primarily on trade but also on property indications.

H. V. M. R.

Mr. Ansell and the A.I.A.

MR. W. H. ANSELL, P.R.I.B.A., has been elected an Honorary Corresponding Member of the American Institute of Architects.

WEATHERPROOF WALLS

MR. FITZMAURICE ON TECHNICAL RESEARCH

MUCH sound, practical advice on the subject of weatherproof walls was given by MR. R. FITZMAURICE, of the Building Research Station, in a lecture which he delivered some time since at the Building Centre. What can we do, he inquired, to stop the wet coming through the wall? Most people would like something you could buy by the gallon and paint on and put an end to the trouble thereafter.

The fact that these reports of troubles do come in in large numbers every time we get a spell of bad weather shows, the lecturer proceeded, that the position with regard to the designing of buildings from the point of view of weatherproofness is not all it should be. It is no credit to the building industry, either to the people who found their practice on tradition, or to the people who look to the scientist to tell them something.

To start with, we might have a definition of what we mean by weatherproofness. One assumes it means to keep out rain or snow to start with, but that perhaps is not quite enough. When you say "to keep out rain," what do you mean? I will show later on that in many cases even a wall which nobody complains about does not keep rain out completely. What we have got to achieve is that the rain from the outside does not appear on the inside as visible running water in such a quantity as to upset the decorations, to feel damp to the touch or to cause moulds or fungi to grow. Another thing which walls have got to do if they are to be weatherproof is to keep out the wind. I think one can dismiss that straight away and say that although air does move through most of our normal walling materials the quantity is so small that it need not exercise the mind of the designer of the building. But when you come to remember points such as windows or the joints between the window frame and the wall structure itself, it is quite another story, and the factor of wind becomes a very important thing. My own opinion, formed from having seen a number of jobs, is that that is a subject which has not received anything like the attention it deserves. The important thing about wind entering your building is that in winter you get cold air entering, and it chills the room down; your warm air inside is expelled and it becomes uncomfortable. We say we have draughts or the heating apparatus is inadequate. In Great Britain we have the fact that our winters are not very severe, so that all that happens from the heating point of view is that our rooms become uncomfortable and we move a little nearer to the fire, but in other countries—for instance, the northern part of North America and a number of Central European countries—the cold outside is so intense that there is no question of putting up with discomfort. If you had these imperfections which we tolerate and grumble about in this country, you would probably die of the cold in those very cold places. One does feel, however, "Why should we put up with this discomfort?" It may be only twenty or thirty nights in the year when the wind whistles through the cracks, but one does feel somehow or other that it is rather a shame we should have to put up with it.

Heat Losses.

Another factor which one must include under the heading of weatherproofness is that the walls of our buildings should retain heat. It is a slightly different thing from the question of heat loss due to wind moving through cracks and that sort of thing. One thinks there of the overall heating insulation of the wall structure itself. Quite evidently if our walls are insufficient from the point of view of retaining heat then the load, if the building be one with a heating installation properly designed, will be excessive if the heat flow through the walls is excessive, but, as I should like to discuss a little later on, one can rather overdo that particular aspect.

Let us put ourselves in the position of a man who has a building to design. What are the factors which are going to influence him in his choice of materials, and to that one must add his choice of method of construction, the way he is going to use the materials. It would be a very happy position if we could take any given site or any given set of conditions which are imposed upon an architect and say that with the data which science or experience can put at his disposal he can design a perfectly satisfactory and economic structure, but one must admit that we have not got that far. Still, there are a number of pointers. The first factor to consider is the locality. The Meteorological Office will give you records of the rainfall in different localities. One would not expect the same type of construction to be suitable for a building in, say, Devon or Cornwall—perhaps overlooking the sea—as in the suburbs of London or even in the City of Birmingham. One must pay some account to locality and realise that the rain is heavier in some districts than in others.

Exposure to wind is another factor which is affected by locality. Obviously in seaside places, on hillsides and so on, you get stronger wind; thus you get a greater quantity of rain impelled against the face of the wall, and you get a greater force to drive the water through the wall.

External Projections.

Then one might say that having taken into account those exposure factors the designer should go ahead and choose his materials. I would put it to you that that is not quite enough. You must pay attention to the design of the building in regard to such essentials as eaves projection, cornices, hood moulds and a number of the features which embellish some of our older buildings.

There is a school of thought which says, "Those things are unnecessary; let us abolish the lot." Well, by all means abolish the lot if you like, but you must realise that those things you are going to abolish are not merely ornamental. They have taken on an ornamental character, they may have developed into things ornamental, but the probability is that originally they fulfilled a strictly utilitarian function. A generous eaves projection is an excellent insurance against the penetration of wet through the walls on the top floor of your building. The same with a good cornice projection; the same with a good hood mould over the window. Provided those features are well designed they all help towards giving you dry walls. If you discard them you have to realise that you have set yourself a rather more severe problem, although not necessarily an insoluble one.

Heating Installations.

The next factor (and this is one which I myself feel convinced is a very important one) is the nature of the occupancy of the building. In occupancy the important factor is the nature of the heating installation in the building. I shall discuss later on the way in which rain behaves in contact with building materials, but the point about this is that provided you have a building adequately heated and ventilated a considerable amount of the water which may get into the walls of your building is removed by virtue of the fact that you get rapid evaporation. In some of the smaller houses which over the greater part of the year only perhaps have fires in one or two rooms you have very inadequate heating conditions in a high proportion of the rooms and corridors, and those are the danger points. You are not getting the removal of the water from the inside and it may build up and collect to such an extent as to become an out-and-out nuisance. Thus occupancy is important. I have seen a number of places this year where I am quite convinced that if the designer of the building had taken rather more account of that he would have chosen a different type of construction and would have avoided some very troublesome problems.

We will assume that our designer has considered those three factors—locality, design and occupancy. He has then got down to the problem of choosing his materials and method of construction. At this stage he has probably got to the point where he has to decide between a solid wall and a cavity wall; he has to decide whether in fact the conditions of exposure and other things are so unpropitious that he dare not choose a solid wall and must go in for a cavity wall. It is a very difficult position to be in. You have got two rather contrary things working. Your solid wall is extremely strong, it has got a large factor of safety from the point of view of strength, but it has got an exceedingly questionable factor of safety from the point of view of weather resistance. The cavity wall reverses that. You have got a smaller factor of safety from the point of view of strength, but you have got a high factor of safety from the point of view of weather resistance, provided the details are properly worked out. I cannot tell you what are the conditions under which one is going to go either for the cavity wall or for the solid wall; you have got to weigh things up. Assuming the exposure is severe in that particular locality, that you are not going to give yourself much help from eaves projection or from cornices and that the heating in the building is not going to be of the best, well, then, I think you have got a very sound argument for going for the cavity wall, or, alternatively, a very good and reliable rendering. That is the kind of way in which I think one might approach it

Solid or Cavity Walls.

Whilst discussing this question of whether one would go for the cavity or the solid wall it is worth mentioning that there is a little controversy about whether the cavity in a cavity wall should be filled or not. The usual materials which are advocated for filling are asphalt or asphaltic compositions of some kind or waterproof or cement mortar. I may be prejudiced, but I do not believe in the filled cavity. You must get a completely impermeable filling—absolutely impermeable—right through the whole of your cavity, and that is extraordinarily difficult to do. I would assume you would get the same difficulty in that type of construction as

you would get in the unfilled cavity; mortar droppings are going to be your bugbear. They are going to drop down in the filling lower down in the wall and they are going to be just as much a nuisance in the case of the filled cavity wall as they are with the unfilled. The essential point here is that if you do go in for the filled cavity you have got to be absolutely certain that the filling is perfectly impermeable; otherwise you are bound to have trouble. Things may drop into your unfilled cavity, or you may be lucky and nothing may happen. I think very often one is lucky, but if the worse comes to the worst and you do get one or two damp spots you can open it up and clear the cavity. That is not a difficult operation, but with the filled cavity you have got a difficult job. With a filled cavity you have set yourself the problem of achieving an absolutely perfect filling, and I myself do not believe in it.

We will assume that one has committed oneself one way or the other, either to the cavity wall or to the solid wall. The problem the designer now has is to choose his materials. Let us take the solid wall first. The problem in its essentials is this: with the majority of our walling materials you have things which have a porous and spongelike structure. You may say of practically every common walling material that if you stand it in water the water will rise up through it to some definite point, dependent upon the capillary characteristics of the particular material. It is not a waterproof material. Therefore, we have got the anomaly that we have got to keep the rain out and make a dry wall with a material which itself lets water through.

Properties of Walling Materials.

Let us look at the properties of the material itself. Most of our materials for walls have a continuous pore structure. There are very many excellent bricks which have an absorption of water up to between 20 and 30 per cent. of their weight. What are you going to do when you choose your brick? Are you going to say it is absolutely absurd to take one with a high absorption? What is to be the basis of your choice? That is a difficult question, but I would say at the outset that I would never under any circumstances necessarily reject a brick with a high absorption and a high porosity. The corollary of that is that I would not necessarily go for the most dense and impervious one. The reason is that you have not only the brick or stone to consider, not only the unit, but the mortar joint as well. One might assume that in a perfect world you could use a very dense and impervious mortar; that you could build 14-in. work, and provided you filled every joint perfectly you would get virtually an impervious barrier. To make assurance doubly sure you could use the most impervious unit you could obtain, and if it was a perfect world you would have done the trick. Unfortunately, however, that is not attainable. Your impervious mortar as a rule is a rich mortar, a rich and strong cement mortar, and these rich, dense and impervious mortars have a high shrinkage; they will shrink away from the brick. Even if they do not shrink away at every joint, none the less they do shrink away from the unit, with the result that you have got a fine channel between the unit and the mortar joint through which water can literally pour. That channel may be only the thickness of a hair, but nevertheless it can let a great deal of water through, and your wall is a failure. I cannot tell you any specification for a method of laying your bricks which would enable you to achieve with any degree of certainty a perfect result with a wall of that kind. I think that crack which forms between the mortar joint and the wall unit is probably the most important factor influencing the penetration of walls by rain. At any rate, the water gets through there very quickly.

Experiments at the B.R. Station.

In confirmation of that I will tell you of experiments which have been carried out at the Building Research Station, where they test the relative waterproofness of walls by the simple expedient of building a wall on a reasonably large scale, somewhere about 8 ft. high and 6 or 7 ft. in width, and exposing the outer face to water from a pipe. The pipe sprays water on to the outer face of the wall. The disadvantage of that is that the quantity of water sprayed on to the wall is vastly in excess of anything which happens in Nature. However, it is extraordinarily difficult to simulate rain, and in order to get a start with experiments that kind of test has been used. In apologising for this test, I would like to say that I think every other country which has investigated the penetration of rain through masonry has started with the same kind of test. You get a really good brick wall, with half a dozen different types of brick, and it is showing wet patches at the back in two minutes. That water never went through the mortar, and it never went through the brick in such a short time; it can obviously have only got through that thickness of material by way of cracks. Those walls were very carefully built by a very competent bricklayer, and I am inclined to think from results which have been reported to us that you would get the same result with pretty nearly every job. However carefully the work was done, and however carefully it was supervised, those cracks would appear, and you would get water through.

Assuming we have got these cracks, how is the porosity of the bricks and mortar going to affect it? I am going to put the argument to you that if you have got a certain porosity of the bricks and mortar it is going to help you, and for this reason. The heaviest rain rarely comes steadily; it comes in gusts with the wind. You get a violent squall, rain driven heavily against your wall, and then a lull. Now what happens if you have a very dense brick, an impervious brick with no absorption of water, and an impervious joining material? Every time the rain is driven up against the wall in a squall you are getting a continuous sheet of water on the face of the wall, and if there are any cracks it is going to go straight through those cracks.

Turning to the opposite extreme, if you get a wall composed of a unit of brick or stone with a fairly high absorption and of mortar with a fairly high absorption, the action is going to be this: the rain blows against the wall and the water is absorbed at the face. It does not form a continuous sheet, and it does not run straight through. Admittedly, the outer face of the wall is going to get wet, but it is not necessarily going to get right through, and there is not going to be a stream of water available to run through these faint cracks. I think that in many cases the use of more permeable bricks and mortar is going to be more useful in keeping the rain out than the use of very dense, non-absorptive units with very dense joints.

I saw an illustration of that last winter, and in a way it was quite an eye-opener. It was a farmhouse in the Chilterns, a well-built, oldish building, about 50 or 60 years old. It was built with semi-vitreous stocks; the stocks were almost vitrified. These almost vitreous bricks had been taken for the quoins. The interesting part about that building was that the walls generally were quite dry, but every corner on the windward side of the building was absolutely teeming with water. I was lucky enough to make the inspection at a time when it was raining very heavily. I went out when the rain was coming down very heavily, and saw what was happening. This difference between the porous and the impervious unit was absolutely apparent. You could see a film of water on the impervious bricks. The bricks which were quite absorptive were wet, but there was no rainwater there, whereas the water was actually streaming down the quoins. That seemed to me to be a very convincing illustration of the importance of porosity.

Porosity.

Without illustrations it is a little difficult to make the next point. In choosing your unit there are two things to consider. I am discussing the porosity of the unit. There is the total porosity—that is to say, the quantity of voids in the material. The other factor which counts is the size of the voids. Supposing you have two materials which are equally porous; one material has the same total void space, but it has large voids—large pores if you like. One can imagine that if you have a material with large pores a liquid is going to run through it quite readily. On the other hand, you may have a material with the same void space but with very fine pores. With the fine pore material you get a greater suction—the capillary forces are greater in a fine pore than in a large one—but you get a much greater resistance to transmission when you are considering the external pores. In an extreme case, if you get a brick with very large voids which are very readily penetrated I think you will find that that brick may be troublesome; it will hold water, but it will let it through too readily.

With all these things I think in the choice of your materials you want to avoid extremes. One does not want a very impervious unit; I do not say a very impervious unit is necessarily a disadvantage, but you do not particularly need to go for it. There is no advantage in obtaining an excessively absorptive unit, but, on the other hand, I do not think there is any disadvantage in high absorption. I think that a large pore size, which in practice has the effect of allowing water to run through freely and rather quickly, may be a disadvantage. I think those are really the main factors to be considered.

With your unit, whether brick or stone, you get a choice of mortar. We have already discussed the sort of thing that happens when you use a very dense mortar. As with choosing the unit you want

(Continued on next page, col. 3.)

CORRESPONDENCE

(Continued from page 526).

Building Organisations.

To the Editor of *The Builder*.

Sir,—Incomplete statistics can be more deceptive than mis-statements of fact, and a case in point is the letter of the Secretaries of the Federation of Greater London Master Builders, Ltd., in your issue of December 5, in which they refer to the National Federation of Building Trades Employers as embracing within their membership only 10 per cent. of the builders recently registered by the Ministry of Works and Buildings.

I have not the details of all the regions which together form the National Federation, but I do happen to know something of my own region, the Eastern. In this region there are some thousands of registered builders of whom only some 10 per cent. are federated, so the Greater London Master Builders are correct so far. But on examining the figures a little further we find about 40 per cent. of the labour in the region is employed by the federated builders of the region, and of the remaining 60 per cent., probably a quarter are employed by visiting firms who are federated members of other regions. Therefore, over half the available labour is employed by members of the National Federation in this region, so we can justly, I think, claim to represent the building industry of East Anglia. Study of the list of our members rebuts the idea that only the larger firms are members, as a big proportion are firms employing a dozen men or fewer, who no doubt must realise that their interests are catered for quite as much as those of the bigger firms.

The National Federation is rightly so named, as it is the only organisation in the country with which the Government Departments, architects, operatives and other bodies can negotiate, knowing that agreements arrived at will be applied nationally, and, incidentally, accepted by such isolated and independent organisations as the F.G.L.M.B.

It would be interesing to know what the G.L.M.B. Federation hopes to achieve as an independent body, or why its members decline the services of the National Federation.

W. G. James,
Managing Director, Coulson & Son, Ltd.

Cambridge.

To the Editor of *The Builder*.

Sir,—By the letter from the Secretaries of the Federation of Greater London Master Builders, Ltd., it is pleasing to note that we are *ad idem* regarding the need for unity. By the standard contract conditions to which I previously referred —of which non-federated builders doubtless take advantage—together with the important fact that all registered builders must by Government decision honour the working conditions laid down by the National Joint Council for the Building Industry, *unity of operations* has been achieved despite the non-affiliation of contractors whose total of employed personnel throughout the kingdom is less than 25 per cent. of the whole.

It would not, I feel, be unfair to suggest that new organisations are beginning at a stage where those of greater experience have laid the foundations and practically completed the superstructure.

The newly formed Bristol organisation, composed quite largely of builders employing few operatives, has adopted a code of rules which, upon comparison with that of the Bristol Association of Building Trades Employers (established for the greater part of a century), pays compliment to the latter—which reminds one of the slogan, "We lead, others follow."

And if it be unhappily true, as stated by your correspondents, that "the backbone of the industry has never been united," it is to be remembered that there are other parts of the body as, for example, the brain. The organisation which I represent—united with eight other Regional Federations to the National Federation of Building Trades Employers—is composed of both, leaving, therefore, little else for distribution.

One must, of course, compliment the two youthful organisations upon their ambition; but experience is a hard school, and it is so much easier to criticise from outside than to offer constructive advice within a movement itself.

Would it, I wonder, be justifiable to suspect that either of the new organisations had its origin in pique? If so, that will be little consolation in the severe testing time which may lie ahead, because, if and when that time should arrive, there will be many clamant voices demanding "value for money," overlooking the fact that they may not have provided their small organisations with sufficient "money" to ensure 100 per cent. "value."

No; better by far to shelter under the friendly umbrella of the National Federation of Building Trades Employers.

Corollary: "A house divided against itself . . ."

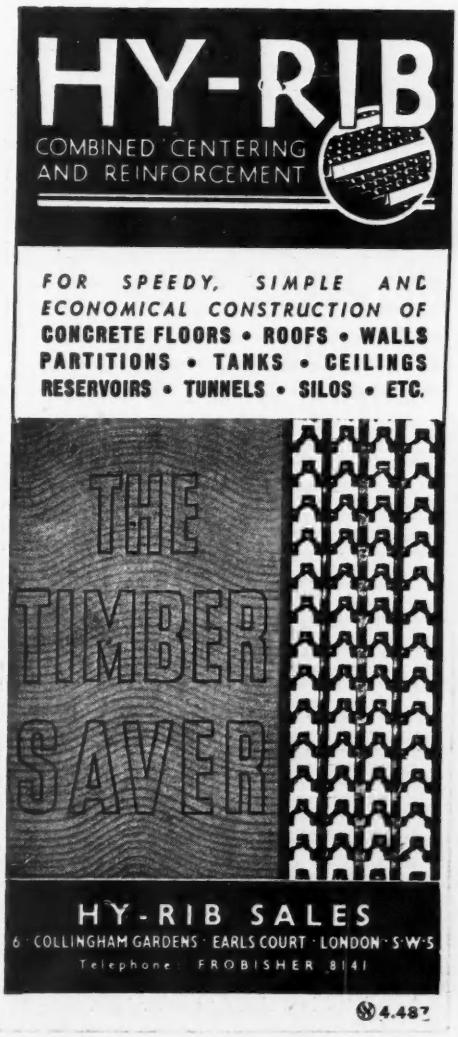
William H. Orrom,
Secretary, South-Western Federation of Building Trades Employers.

Clifton, Bristol.

Ministry of Health Loans.

The loans sanctioned by the Ministry of Health during the quarter ended September 30, 1941, to Local Authorities in England and Wales were as follows:—

Housing, £138,567; Municipal services (including clinics, sanatoria and mental hospitals), £274,527; Swimming pools, playing fields, recreation grounds, open spaces, etc., £26,766; Water supply, £155,096; Disposal of waste products (sewerage and sewage disposal and refuse destruction), £69,342; Education services (including libraries and museums), £342,399; Air raid precautions, £312,573; Roads and bridges (including private street works), £123,684; Other services £86,268; Total £1,529,222.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NUISANCE—5

By W. T. CRESWELL, K.C.

It is both unreasonable and unlawful for an owner or occupier of premises to allow them to become or remain in such a condition as to occasion, or to be likely to occasion, serious injury or damage to the persons or property of others so as to interfere with their lawful right to enjoy peaceful occupation. So if an owner or occupier of premises plants poisonous shrubs on his property, or allows his trees to overhang his neighbour's boundary, he is, amongst other things, liable in nuisance for any damage done to his neighbour's cattle (if these are not trespassing on his own land) or to his crops. Every owner or occupier as against his neighbour is entitled at all times to the comfortable and healthful enjoyment of the premises owned or occupied by him.

In deciding when the rights of the owner or occupier have been frustrated and a nuisance thereby caused, it is always necessary to inquire as to whether or not the act complained of is an inconvenience materially interfering with the ordinary physical comfort of human existence. That is to say, it is necessary to prove it is not merely an act which is not in accordance with elegant or dainty ideas or modes of living but one not according to the plain and ordinary notions of mankind. The locality, and customs of the locality, must also be taken into account; also, whether there is a local prevalence of similar annoyances dating from a long time back.

As already mentioned in these articles, an owner or occupier has the right to abate a nuisance himself summarily, whenever the nuisance is caused by an act of commission. Thus he has the right to cut off overhanging branches of his neighbour's trees without even giving him notice of his intention to do so. In doing this, however, he should bear in mind that the branches of a tree may belong to a tree partly on his own land and partly on his neighbour's land, the roots of which derive nourishment from the soil of both territories. In such instances the tree belongs to the owner of the soil in which it was first sown or planted.

The question of commission or omission in the case of boughs of trees overhanging the public highway or private property need not be considered. An injured party need not in this instance wait until he has, in fact, suffered injury before his power of abatement can be exercised. He can, without notice, abate the nuisance and lop off the overhanging boughs if they can be lopped from his own property without entering on his neighbour's land, otherwise he must give notice to his neighbour of any entry he wishes to make on his neighbour's land for the purpose of abating the nuisance. But if it is a case of emergency and it is necessary to enter his neighbour's land to protect life or property, then no notice is required.

(*Concluded.*)

WEATHERPROOF WALLS

(*Continued from page* 536.)

to avoid extremes. I think the main thing is to match the porosity of the mortar to the porosity of the brick. That is quite important. Supposing you had a very dense, impervious brick or stone, we will say a granite wall. Supposing you were a fanatic and said, "I will not have anything but lime mortar on this job," because you had tremendous faith in the value of lime mortar as opposed to all other mortars. You would then get a very porous mortar. When it rained the rain would stream down the face of the unit and at every joint it would meet with extremely little resistance. No water would be absorbed in the face of the wall, but I think you would be very likely to get a wet wall. In fact, we have had a number of cases where that has happened. A Scotch building which was built with fairly large granite stocks was a particularly bad example. The material was completely non-absorptive, but the wall was of the very wettest.

(*To be continued.*)

SUNDAY WORK

A MINISTERIAL STATEMENT.

THE following statement has been issued by the Minister of Labour and National Service and the Minister of Works about hours of work in the Building and Civil Engineering Contracting Industries :

1. The hours of work recently permitted in the building and civil engineering contracting industries provided for a maximum week of 60 hours on weekdays and no Sunday work save in certain exceptional circumstances. In winter the limited hours of daylight permit a maximum of only 44 hours if work on Sundays is not allowed, and it has been represented to the Government that, in view of the urgent necessity for maintaining production at the highest possible level, Sunday work should be allowed until such time as more than 50 hours per week can be worked in daylight without recourse to Sunday working.

2. The Minister of Labour and National Service and the Minister of Works in consultation with the representatives of employers and workers have therefore decided that hours should be so adjusted as to permit of an average of 50 per week being worked until the beginning of February and for this purpose the following Sundays should be worked :—December 14 and 21, 1941; January 4 and 18, 1942; February 1, 1942.

On the Saturdays preceding these Sundays, work should cease at mid-day, but on Saturdays, December 27 and January 10 and 24, 8 hours should be worked. Christmas Day will be observed as a holiday in England and Wales and New Year's Day in Scotland. There will be no Sunday work after February 1. In the pay week, which includes Sunday, February 8, 8½ hours should be worked on all weekdays except Saturday, February 7, when 7½ hours should be worked. In subsequent pay weeks the hours worked on any week-day should be increased as daylight permits up to a maximum of 60 per week.

3. Ministers hope that in all building and civil engineering contracting work connected with the Government Building Programme, or otherwise of vital importance, full advantage will be taken of these hours.

4. Working on the Sundays mentioned above will be in accordance with the directions of the Minister of Works, and will not therefore infringe the conditions on which provisional certificates of registration under Defence Regulation 56 AB have been given. Working on any Sundays other than those mentioned above will be a breach of the Regulation.

5. Wages payable during Sundays in the period concerned will be subject to the ordinary overtime rules of the industries. On sites scheduled under the Essential Work (Building and Civil Engineering) Order, the payment by results scheme will apply to work done on Sundays and earnings will be calculated under that scheme as on a weekday, together with single time rate in addition.

Sundays are excluded from the calculation of the guaranteed week under the Essential Work (Building and Civil Engineering) Order, and workmen on scheduled sites are entitled to their guaranteed minimum under the Order irrespective of any work done on Sunday.

CHRISTMAS WORK

The National Joint Council for the Building Industry has issued details of working conditions and wage payments on Christmas Day and Boxing Day next.

H.M. Government has announced that war production this Christmas is to be continued with not more than one day's break, and that accordingly, in England and Wales, Christmas Day is to be observed as a full day's holiday, but on Boxing Day production must proceed without interruption. The Bank Holiday has been cancelled, and Boxing Day will not be a Bank Holiday or a public holiday. Nevertheless, it will have to be deemed a Bank Holiday for the purposes of payments due under any existing wage agreement (oral or otherwise) for work done on that day.

The position is thus the same as last year, and the appropriate Committee of this Council has decided that accordingly the same principles as those which applied last year must apply also on this occasion, namely :—

(1) That any work done on Christmas Day in England and Wales, or on New Year's Day in Scotland, carries the appropriate overtime rates (double time) both on jobs under the Uniformity Agreement and on jobs operating under the ordinary National Working Rules.

(2) That in respect of jobs under the Uniformity Agreement the payment of overtime rates is due if time is worked on Boxing Day (time and a half throughout).

(3) That in respect of other jobs also overtime rates are payable, if time is worked on that day, wherever there is in existence any agreement (oral or written) to pay overtime rates on that day as a Bank Holiday.

(4) That the National, Regional and Local Rules of the Building Industry do not require any employer to open his job or works on a locally recognised holiday, but that, in the circumstances of this winter, such opening will doubtless occur (and will be in order) in cases where a Government Department requests it in the general national interest for the prosecution of the war.

IN PARLIAMENT

Juvenile Wages.

SIR EDWARD CADOGAN asked the Minister of Labour whether his attention had been drawn to the disproportionate increase of wages paid to juveniles; whether he would review the whole matter and take any steps to obviate the adverse effects which such wages might have upon the character, conduct and future prospects of youths employed in industry.

MR. TOMLINSON, who replied, said he was aware of the publicity given to certain cases of high earnings on the part of youths, but many of the examples quoted were exceptional, and there were other war-time influences besides the rate of wages which might affect the incidence of juvenile delinquency. In fact he understood the ages affected were largely those before entry into industry. In the building industry, which had been mentioned in this connection, an agreement had recently been concluded whereby the wages of youths under 18 would be brought within stricter limits by the institution of a wage-for-age scale.

[In this connection, see a letter from Sir J. Walker Smith on this page—Editor.]

IMPORTANT NOTICE TO READERS AND ADVERTISERS

Reduction in size of Type Areas

In order to comply with the "Restriction on Paper Order" and at the same time avoid as far as possible reduction in supplies to those readers who have placed a regular and accepted order for "The Builder," it will be necessary to reduce the size of the page commencing with the first issue in January, 1942. In consequence of this change, the new type areas of advertisements will be as follows :—

WHOLE PAGE - 10" deep x 6½" wide
HALF PAGE - - 10" deep x 3⅛" wide
HALF PAGE - - 4⅞" deep x 6½" wide
QUARTER PAGE - 4⅞" deep x 3⅛" wide
QUARTER PAGE - 2⅜" deep x 6½" wide
EIGHTH PAGE - 2⅜" deep x 3⅛" wide
EIGHTH PAGE - 1⅛" deep x 6½" wide
SINGLE COLUMN width - 2⅛"

Readers will find no substantial alteration from the present presentation of Editorial articles, illustrations, etc., as the matter will be printed in a slightly smaller type.

JUVENILE WAGES IN THE BUILDING TRADE

ARISING out of correspondence in *The Times* on the question of the payment of excessive wages to juveniles, SIR J. WALKER-SMITH, Director of the National Federation of Building Trades Employers, writes to the newspaper as follows : "Your recent leading article on the important question of the payment of excessive wages to juveniles stated that 'the trouble in its most acute form is concentrated in certain trades, of which building is the chief,' and that 'employers bear a heavy moral responsibility' for thus demoralising the youth of this country. As far as the building industry is concerned there is some truth in the view that various forms of Government contract did not provide much incentive to economy. It should be realised, however, that the national organisations of the industry urged the Government to avoid such pitfalls, and did their utmost to prevent abuses and excessive payments. But the overpayment of youths has been associated less with the large Government projects than with the work of local authorities on repair of air raid damage and the erection of shelters.

"It should be recognised that the basic difficulty arose from the fact that, whereas skilled building craftsmen were in reserved occupations, general building labourers were not reserved at all. Many young able-bodied labourers were therefore taken into the Army and the remainder were absorbed on important Government works in the country districts. Thus, when the need arose for clearance work and urgent repairs in some of the large cities, the local authorities felt it necessary to mobilise all the resources still available to them. These were chiefly the elderly men not fit enough for the large constructional works in the country and the youths not yet old enough for the Services. Since often the physical capacities of these two classes were not greatly different, the local authorities were, in the circumstances of emergency, frequently disposed to pay them all on a basis of equality, at the full labourers' rate. Indeed there were numerous cases where this was done by special resolution of the local authority. Building employers were not in a position to prevent such developments.

"It is only fair to recognise that the national organisations of employers and operatives in the industry have throughout, with the moral support of the Government Departments, done their utmost to secure stability in the matter of wages, and have succeeded to a remarkable degree, notwithstanding the extraordinary conditions under which much of the work has had to be done. In conformity with this policy they have published a joint national agreement prescribing a definite scale of wage rates for young labourers according to their age. Under this national agreement youths receive 40 per cent. of the adult labourers' rate when 15 years of age; 50 per cent. when 16, and 75 per cent. when 17 years of age. The adult labourers' rate is itself 75 per cent. of the rate payable to craftsmen.

"Under the recent registration order for the building and civil engineering industries no building contractor will be able to carry on business if he pays to building workers (including young labourers) rates of wages higher than those prescribed by the national joint agreements of the industry. The same salutary check may also, under the Order, be applied to the building departments of local authorities, and it is to be hoped that a firm attitude on the part of the Government will thus lead automatically to a solution of the problem."

Works Councils and Committees.

A practical booklet on this subject has been published by the Industrial Welfare Society, 14, Hobart-place, London, S.W.1 (price 1s. post free). It is a brief survey of the problems of policy and administration involved and should be of value to any firm wishing to set up machinery for consultation and joint discussion within the works. Two conditions seem to be essential for success : First, a works council scheme must be so devised that it has the absolute confidence of the workers; and second, the management must be willing to use it, not nominally, but in fact.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the head of paragraphs are those for the submission of tenders: a dagger (†) denotes closing date for applications; the name and address at the end refer to person from whom particulars may be obtained.

BUILDING.

DECEMBER 16.

Cumberland C.C.—Conversion of property into public cleansing centre. John H. Haughan, F.R.I.B.A., County Architect, 4, Alfred-st. North, Carlisle.

Newhaven U.D.C.—Strengthening of two surface shelters. E. and S.

Portadown U.D.C.—Construction of (1) A.F.S. station; (2) wardens' action stations. Town Surveyor's Office, Town Hall.

DECEMBER 17.

Londonderry Civil Defence Authority.—Gas cleansing station and first-aid post. City Surveyor's Office, Guildhall-st. Dep. £3 3s.

Newbury T.C.—Public convenience. B. S. and W. E.

West Riding C.C.—Adaptation works for a proposed ambulance garage, Knaresborough. West Riding Architect, County Hall, Wakefield.

DECEMBER 19.

Elstree R.D.C.—Small one-storey building. E. and S. Dep. £2 2s.

Twickenham T.C.—Conversion of No. 51, Hampton-rd., Teddington, into day nursery. B. E .and S.

DECEMBER 24.

Amesbury R.D.C.—Extension of water pumping station. C. Laidman, S.

DECEMBER 29.

Deptford T.C.—Four public shelters. B. E. and S.

***Twickenham.**—Adaptation of 64, Broad-st., Teddington, as British Restaurant. B. E.

JANUARY 2.

Smethwick C.B.—Cleansing station, Rolfe-st. B. E. Dep. £5 5s. (Last day for applications, December 15.)

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

DECEMBER 15.

South East Essex Joint Hospital Board.—Overhauling electrical installation at isolation hospital, Billericay. H. R. Bird, chartered architect, St. Thomas's Gate, Brentwood. Dep. £1 1s.

DECEMBER 29.

Middlesbrough T.C.—Electrical installations in trenches and installation of electric pumps. H. Haigh, B. E. E. Dep. £2 2s.

ROAD, SEWERAGE AND WATER WORKS.

DECEMBER 19.

Londonderry Civil Defence Authority.—Sixteen static water basins. City Surveyor's Office, Guildhall-st., Londonderry.

Matlock U.D.C.—Construction of about 265 yds. of 12 in. concrete tube and spun iron sewer, etc. W. H. Radford and Son, Albion-chbs., King-st., Nottingham. Dep. £2 2.

DECEMBER 30.

Merton and Morden U.D.C.—Ten water tanks. S., Council Offices, Kingston-rd., Merton, S.W.19. Dep. £1.

JANUARY 12.

Hartley Wintney R.D.C.—Extensions to sewage works and pumping station Howard Humphreys and Sons, 7, Eldon-sq., Reading. Dep. £3 3s.

ENGINEERING, IRON AND STEEL.

DECEMBER 19.

Wombwell U.D.C.—Supply and erection upon foundations provided by Council, of one set of two purifiers, each 15 sq. ft. by 5 ft. deep, with dry lute covers, grids, etc. Gas Eng. and Manager, Gasworks, Wombwell.

PUBLIC APPOINTMENTS.

DECEMBER 15.

Hampshire War Agricultural Executive Committee.—Building Surveyor, Executive Officer, Hants. War Agricultural Committee, The Castle, Winchester.

DECEMBER 16.

Bootle C.B.—Staff Officer—Rescue and Decontamination Services. W. A. Harrison. B. E.

DECEMBER 20.

Leicester T.C.—Four Architectural Assistants. J. L. Beckett, City E. and S.

DECEMBER 24.

***Dorset C.C.** — Maintenance Engineer. Clerk, County Council, Dorchester.

DECEMBER 27.

***West Ham C.B.**—Technical Assistant B. S.

DECEMBER 29.

Willesden T.C.—Deputy Borough Engineer and Surveyor. W. T. Pirie, Town Clerk.

NO DATE.

***Kensington B.C.**—Temporary Builder's Clerk. F. Webster, T. C.

***Poplar B.C.** Temporary Timekeeper. B. E., Town Hall.

BUILDING ILLUSTRATED

NEW PHYSICS BLOCK, OXFORD.

For this new Physics Block (designed by Messrs. Lanchester, Lodge and Davis, FF. & A.R.I.B.A.) the general contractors were Messrs. Benfield and Loxley, Ltd., of Oxford. Sub-contractors were: Flooring, Kleine Co., Ltd.; asphalt, Limmer and Trinidad Lake Asphalt Co., Ltd.; roofing, Frazzi, Ltd.; metal windows, Crittall Manufacturing Co., Ltd.; electrical work, Electrical Installations, Ltd.; lifts, Bennie Lifts, Ltd.; engineering services, Ashwell and Nesbit, Ltd.; roof lights, Lenscrete, Ltd.; cork insulation, W. Christie and Grey, Ltd.; blinds, J. Avery and Co.; overhead runway, Argus Engineering Co.; crane, Herbert Morris, Ltd.; flooring, Acme Flooring Co., Ltd.; terrazzo, Jaconello, Ltd.; acoustics, May Acoustics, Ltd.; sanitary fittings, John Bolding and Sons, Ltd.; sinks, etc., Shanks and Co., Ltd.; granolithic, Kendall's Paving Co., Ltd.; balustrading, Caston and Co., Ltd.; tiles, Carter and Co., Ltd.; door fittings, etc., James Gibbons, Ltd.; linoleum, The Inlaid Ruboleum Tile Co., Ltd.; granite, W. W. Jenkins and Co., Ltd.; table benches, etc., F. Shurman and Son; hatch cover, Lionweld Steel Flooring and Stairway Co.; blockboard, Venesta, Ltd.; laboratory apparatus, Baird and Tatlock (London), Ltd.; blackboards, F. E. Becker and Co.; transferring machinery, Lowe and Oliver, Ltd.; blinds, Accordo Blinds, Ltd.; vacuum pipeline, R. Stewart, City Engineer's Dept., Oxford; cycle parks, Constructors, Ltd.; silver letters, metalwork, Starkie Gardner, Ltd.; and fasteners and strap hinges, Walter Cassey, Ltd.

Offices, St. James's-square.

The Philip Flooring Co. inform us that they carried out 5,000 yards of oak block flooring in the new office building in St. James's-square (Messrs. Robert Angell & Curtis, architects), illustrated in our last issue.

FEDERATED EMPLOYERS' INSURANCE ASSOCIATION LTD. ESTABLISHED 1904

The Leading Office for

Contract Guarantee Bonds

ALSO

FIRE

WORKMEN'S COMPENSATION

PUBLIC LIABILITY

MOTOR

ETC. ETC.

Head Office:

8 KING STREET, MANCHESTER, 2

London Office:

23, Lawrence Lane, Cheapside, London, E.C.2

CURRENT AND PROPOSED NEW BUILDINGS

Batley.—E.C. seeking sanction to borrow £1,500 for extended facilities for school meals. Plans by T. Mossop, B.S.

Bewdley.—T.C. to acquire land for water-works undertaking.

Blackburn.—T.C., in conjunction with the Preston and Burnley Corporations, propose to establish cooking depots.

Bredbury and Romiley. — U.D.C. propose reinstatement of Surveyor's offices.

Brighouse. — T.C. approved: J. Blakeborough and Sons, Ltd., alterations and extensions to central store.

Bromsgrove.—Bromsgrove, Droitwich and Redditch Joint Hospital Board propose construction of water tower.

Chapel-en-le-Frith. — R.D.C. proposes adaptation of "Eaves Hall" for use as sick bay and hostel. Plans by T. Dinsdale, S.

Cheshire.—E.C. Sub-Committee selected site at Congleton for erection of junior school. Plans by E. M. Parkes (F.), County Architect, The Castle, Chester.

Chesterfield. — Board of Management of Chesterfield and North Derbyshire Royal Hospital propose additional accommodation for nursing staff.

Chesterfield.—Grassmoor Collieries, Ltd., propose canteen, at £4,000.

Consett. — U.D.C. to establish another British Restaurant. Plans by P. Leath, S.

Darlington. — T.C. to set up British Restaurant at Corn Exchange, Feethams. Plans by E. Minors, B.E.

Durham.—Kitching and Co., 21, Albert-rd., Middlesbrough, are architects for hostel at Ingleton.—E.C. to erect war-time nursery at Shildon. Plans by F. Willey, 34, Old Elvet, Durham.—C.C. to erect mortuary at Holywood sanatorium. Plans by W. J. Merrett, County Eng., Shire Hall, Durham.

Gateshead.—B.E. prepared plan for proposed central school kitchen, at £3,600.—Canteens are to be established at 14 schools, at £1,800.

Hindley.—U.D.C. proposes to establish day nursery. Plans by P. Fairclough, S.

Huddersfield.—T.C. to adapt premises at Lockwood for British Restaurant. Plans by W. Jagger, B.S.

Hull.—Watch Committee approved scheme for sports club at the police headquarters and to acquire premises for headquarters for special constabulary. Plans by A. Rankine (A.), City Architect.—E.C. proposes extension of buildings.

Macclesfield.—Surveyor to prepare plans for adaptation of premises at Poynton as fire sub-station, at £500.

Manchester. — T.C. to adapt premises at Wythenshawe for branch library.—Housing Committee approved plans for structural alterations to Litchford Farm, Blackley.

Mansfield. — T.C. propose adaptation of premises as a hostel.—E.C. propose five emergency communal feeding centres.—Health Committee to erect buildings for infectious diseases.

Mirfield.—Coloured Cotton Spinning Co., Ltd., propose canteen to works.

Oldham. — Health Committee propose to adapt premises for additional accommodation for nursing staff of Boundary Park Municipal Hospital.

NEW BUILDINGS IN LONDON

BARKING.—BUILDINGS.—T.C. have passed plans: For canteen and cloakroom, Hertford-rd., for R. F. Read and Co., Ltd.; lavatory accommodation, Alfred's-way, for A. F. Bulgin and Co., Ltd.; Additions for Nil Secundum Smelting Works and Allied Products, Ltd.; Lavatory accommodation, London-rd., for Stephen Hynson, Ltd.; Addition to laboratory for Thames Plywood Manufacturers, Ltd.; and canteen and store for John G. Austin (Ilford), Ltd.

BROMLEY.—WORKS.—Metropolitan Water Board have made application to Lewisham B.C. for sanction to erect a pumping station in Bromley area. Mr. H. F. Cronin, M.Inst. C.E., is Chief Engineer, at Rosebery-av., E.C.1.

CATFORD.—BUILDING. — Messrs. Loweth and Sons, Ltd., builders, 67, Downs Park-rd., E.8, have received permission to deviate from plans for erection of building at 40, Rushey Green.

RAVENSBOURNE.—OFFICES, ETC.—Lewisham B.C. has passed plans submitted by Mr. A. Hargreaves for offices, stores and buildings in Ravensbourne-av.

WOOLWICH.—BUILDINGS.—Plans approved by T.C. (submitted by Wright and Renny, architects, 1, Powis-st., Woolwich) for alterations and additions at Burrage-gr., Plumstead.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st JUNE, 1941

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.
Aberavon	1/10½	1/5½
Aberdare	1/10½	1/5½
Abergavenny	1/10½	1/5½
Abingdon	1/9	1/4½
Accrington	1/10½	1/5½
Aldeburgh	1/7	1/3
Aldershot	1/9	1/4½
Alfreton	1/10½	1/5½
Alnwick	1/10	1/5½
Altrincham	1/10½	1/5½
Amble	1/10	1/5½
Amersham	1/9	1/4½
Ammanford	1/10½	1/5½
Andover	1/8½	1/4½
Ardingly	1/8½	1/4½
Arundel	1/8½	1/4½
Ascot	1/8½	1/4½
Ashby-de-la-Zouch	1/10½	1/5½
Ashford (Kent)	1/8½	1/4½
Ashford (Middlesex)	1/10½	1/5½
Ashington	1/10	1/5½
Ashtead	1/10½	1/5½
Ashton-under-Lyme	1/10½	1/5½
Aylesbury	1/8½	1/4½
Aylsham	1/7½	1/3½
Bagshot	1/8½	1/4½
Banbury	1/8½	1/4½
Barnsley	1/10½	1/5½
Barnstaple	1/8½	1/4½
Barrow-in-Furness	1/10½	1/5½
Barry	1/10½	1/5½
Basingstoke	1/8½	1/4½
Bath	1/10	1/5½
Batley	1/10½	1/5½
Beaconsfield	1/9	1/4½
Beccles	1/7	1/3
Bedford	1/10	1/5½
Berkhamsted	1/8½	1/4½
Berwick	1/10	1/5½
Beverley	1/10½	1/5½
Bexhill-on-Sea	1/9	1/4½
Bideford	1/8½	1/4½
Biggleswade	1/8½	1/4½
Billericay	1/8	1/3½
Birchington	1/8½	1/4½
Birkenhead	‡§2/0½	¶
Birmingham	†1/10½	1/5½
Bishop Auckland	1/10½	1/5½
Bishop's Stortford	1/9½	1/5
Blackburn	1/10½	1/5½
Blackpool	1/10½	1/5½
Blyth	1/10½	1/5½
Bognor Regis	1/8½	1/4½
Bolton	1/10½	1/5½
Bournemouth	1/9½	1/5
Bracknell	1/8½	1/4½
Bradford	1/10½	1/5½
Bradford-on-Avon	1/7½	1/3½
Braintree	1/8½	1/4½
Brentwood	1/10	1/5½
Bridgwater	1/9	1/4½
Bridlington	1/10	1/5½
Brighouse	1/10½	1/5½
Brighton	1/9½	1/5
Bristol	1/10½	1/5½
Broadstairs	1/8½	1/4½
Bromsgrove	1/10	1/5½
Buckley	1/10½	1/5½
Bungay	1/6½	1/2½
Burnham-on-Crouch	1/7	1/3
Burnley	1/10½	1/5½
Burslem	1/10½	1/5½
Burton-on-Trent	1/10½	1/5½
Bury	1/10½	1/5½
Bury St. Edmunds	1/8	1/3½
Buxton	1/10	1/5½
Byfleet	1/9	1/4½
Cambridge	1/10½	1/5½
Canterbury	1/8½	1/4½
Cardiff	1/10½	1/5½
Carlisle	1/10½	1/5½
Carnforth	1/10½	1/5½
Castleford	1/10½	1/5½
Caterham	1/10½	1/5½
Chard	1/7½	1/3½
Chatham	1/9½	1/5
Chelmsford	1/10	1/5½
Cheltenham	1/9½	1/5
Chepstow	1/10	1/5½
Chertsey	1/9½	1/5
Chester	1/10½	1/5½
Chesterfield	1/10½	1/5½
Chichester	1/8½	1/4½
Chorley	1/10½	1/5½
Cirencester	1/8	1/3½
Clacton	1/8½	1/4½
Cleveleys	1/10½	1/5½
Clitheroe	1/10½	1/5½
Cobham (Surrey)	1/9½	1/5
Colchester	1/10	1/5½
Colwyn Bay	1/9½	1/5
Congleton	1/10	1/5½
Coventry	1/10½	1/5½
Cranbrook	1/8½	1/4½
Cranleigh	1/8½	1/4½
Crawley	1/8½	1/4½
Crewe	1/10	1/5½
Cromer	1/7½	1/3½
Crowborough	1/8½	1/4½
Cuckfield	1/8½	1/4½
Darlington	1/10½	1/5½
Darwen	1/10½	1/5½
Daventry	1/9	1/4½
Deal	1/8½	1/4½
Denbigh	1/9½	1/5
Derby	1/10½	1/5½
Devizes	1/7½	1/3½
Dewsbury	1/10½	1/5½
Didcot	1/8½	1/4½
Diss	1/7	1/3
Doncaster	1/10½	1/5½
Dorchester	1/8	1/3½
Dorking	1/9	1/4½
Dover	1/8½	1/4½
Dovercourt	1/8½	1/4½
Driffield	1/9	1/4½
Droitwich	1/10	1/5½
Dudley	1/10½	1/5½
Dunstable	1/9	1/4½
Durham City	1/10½	1/5½
Eastbourne	1/9½	1/5
E. Glam. (Mon. Val.)	1/10½	1/5½
East Grinstead	1/8½	1/4½
Edenbridge	1/8½	1/4½
Ely	1/7½	1/3½
Epping	1/10½	1/5½
Exeter	1/10	1/5½
Exmouth	1/9	1/4½
Fakenham	1/7½	1/3½
Falmouth	1/9	1/4½
Fareham	1/9½	1/5
Faversham	1/8½	1/4½
Felixstowe	1/9½	1/5
Filey	1/9	1/4½
Fleetwood	1/10½	1/5½
Flint	1/10½	1/5½
Folkestone	1/8½	1/4½
Frinton-on-Sea	1/8½	1/4½
Frome	1/7½	1/3½
Gainsborough	1/9½	1/5
Gateshead	1/10½	1/5½
Gillingham (Kent)	1/9½	1/5
Glossop	1/10½	1/5½
Gloucester	1/10	1/5½
Godalming	1/8½	1/4½
Goole	1/10½	1/5½
Gosport	1/10	1/5½
Grantham	1/9½	1/5
Gravesend	1/10	1/5½
Great Yarmouth	1/8½	1/4½
Grimsby	1/10½	1/5½
Guildford	1/8½	1/4½
Guilsborough	1/9	1/4½
Halifax	1/10½	1/5½
Hanley	1/10½	1/5½
Harpenden	1/9½	1/5
Harrogate	1/10½	1/5½
Hartlepools	1/10½	1/5½
Harwich	1/8½	1/4½
Haslemere	1/8½	1/4½
Hastings	1/8½	1/4½
Hatfield	1/10	1/5½
Haywards Heath	1/8½	1/4½
Hednesford	1/10	1/5½
Hemel Hempstead	1/9½	1/5
Henley-on-Thames	1/8½	1/4½
Hereford	1/8½	1/4½
Herne Bay	1/8½	1/4½
Hertford	1/10	1/5½
Heysham	1/10½	1/5½
Hitchin	1/9½	1/5
Hoddesdon	1/10	1/5½
Holt (Norfolk)	1/7	1/3
Horley	1/8½	1/4½
Horsham	1/8½	1/4½
Horwich	1/10½	1/5½
Huddersfield	1/10½	1/5½
Hull	1/10½	1/5½
Hunstanton	1/7½	1/3½
Huntingdon	1/8	1/3½
Ilfracombe	1/8½	1/4
Ingatestone	1/9	1/4½
Ipswich	1/10	1/5½
Isle of Thanet	1/8½	1/4½
Isle of Wight	1/8	1/3½
Keighley	1/10½	1/5½
Kenilworth	1/10½	1/5½
Kettering	1/10½	1/5½
Kidderminster	1/10	1/5½
King's Lynn	1/8½	1/4½
Kirkham	1/10½	1/5½
Knowle	1/10	1/5½
Lancaster	1/10½	1/5½
Leamington	1/10½	1/5½
Leatherhead	1/9½	1/5
Leeds	1/10½	1/5½
Leicester	1/10½	1/5½
Leighton Buzzard	1/7½	1/3½
Letchworth	1/9½	1/5
Lewes	1/8½	1/4½
Lichfield	1/9½	1/5
Lincoln	1/10½	1/5½
Littlehampton	1/8½	1/4½
Liverpool	‡§2/0½	¶
Llandudno	1/9½	1/5
Llanelly	1/10½	1/5½
London—		
12m. radius	*2/0	1/6½
12-15 m. radius	*1/11½	1/6½
Long Eaton	1/10½	1/5½
Longton	1/10½	1/5½
Loughborough	1/10½	1/5½
Louth	1/9	1/4½
Lowestoft	1/8½	1/4½
Luton	1/10	1/5½
Macclesfield	1/10	1/5½
Maidenhead	1/9½	1/5
Maidstone	1/9	1/4½
Malvern	1/9	1/4½
Manchester	1/10½	1/5½
Manningtree	1/7½	1/3½
Mansfield	1/10½	1/5½
March	1/7½	1/3½
Margate	1/8½	1/4½
Market Harborough	1/9½	1/5
Matlock	1/9	1/4½
Melton Constable	1/7	1/3
Melton Mowbray	1/9½	1/5
Merthyr	1/10½	1/5½
Middlesbrough	1/10½	1/5½
Middleton	1/10½	1/5½
Middlewich	1/10	1/5½
Milford Haven	1/9	1/4½
Morecambe	1/10½	1/5½
Morley	1/10½	1/5½
Mundesley	1/7½	1/3½
Nantwich	1/10	1/5½
Nelson	1/10½	1/5½
Newark-on-Trent	1/10	1/5½
Newbury	1/8½	1/4½
Newcastle-on-Tyne	1/10½	1/5½
Newcastle-u.-Lyme	1/10½	1/5½
New Forest	1/8½	1/4½
Newmarket	1/8½	1/4½
Newport, Mon.	1/10½	1/5½
Newport Pagnell	1/8½	1/4½
Northampton	1/10½	1/5½
Norwich	1/10½	1/5½
Nottingham	1/10½	1/5½
Nuneaton	1/10½	1/5½
Oakham	1/9	1/4½
Oldham	1/10½	1/5½
Ormskirk	1/10½	1/5½
Oxford	1/10	1/5½
Oxted	1/9	1/4½
Paignton	1/10	1/5½
Peterborough	1/10	1/5½
Plymouth	1/10½	1/5½
Pontefract	1/10½	1/5½
Pontypridd	1/10½	1/5½
Port Talbot	1/10½	1/5½
Portsmouth	1/10	1/5½
Preston	1/10½	1/5½
Pulborough	1/8½	1/4½
Ramsgate	1/8½	1/4½
Reading	1/10	1/5½
Redditch	1/10	1/5½
Redhill	1/9	1/4½
Ripon	1/9	1/4½
Rochdale	1/10½	1/5½
Rochester	1/9½	1/5
Rugby	1/10½	1/5½
St. Albans	1/10	1/5½
St. Helens	1/10½	1/5½
St. Neots	1/8	1/3½
Saffron Walden	1/7½	1/3½
Salisbury City	1/8	1/3½
Salisbury Plain	1/9½	1/5
Sawbridgeworth	1/9	1/4½
Saxmundham	1/7	1/3
Scarborough	1/10	1/5½
Scunthorpe	1/10½	1/5½
Selby	1/10½	1/5½
Sevenoaks	1/9	1/4½
Sheerness	1/8½	1/4½
Sheffield	1/10½	1/5½
Shipley	1/10½	1/5½
Shoeburyness	1/10	1/5½
Shoreham	1/9½	1/5
Shrewsbury	1/10	1/5½
Sittingbourne	1/8½	1/4½
Skegness	1/9½	1/5
Sleaford	1/9	1/4½
Slough	1/9½	1/5
Southampton	1/10	1/5½
Southend-on-Sea	1/10	1/5½
Southport	1/10½	1/5½
South Shields	1/10½	1/5½
Spalding	1/8½	1/4½
Stafford	1/10	1/5½
Staines	1/9½	1/5
Stamford	1/9½	1/5
Stevenage	1/9½	1/5
Stockport	1/10½	1/5½
Stockton-on-Tees	1/10½	1/5½
Stoke-on-Trent	1/10½	1/5½
Stourbridge	1/10½	1/5½
Stourport	1/10	1/5½
Stowmarket	1/7½	1/3½
Stratford-on-Avon	1/9½	1/5
Stroud	1/9½	1/5
Sunderland	1/10½	1/5½
Sutton Coldfield	1/10½	1/5½
Swaffham	1/7	1/3
Swanage	1/8½	1/4½
Swansea	1/10½	1/5½
Swindon	1/9	1/4½
Tamworth	1/10	1/5½
Taunton	1/9	1/4½
Tenterden	1/8½	1/4½
Thames Haven	1/10½	1/5½
Thetford	1/8	1/3½
Thorpe Bay	1/10	1/5½
Todmorden	1/10½	1/5½
Tonbridge	1/9	1/4½
Torquay	1/10	1/5½
Totnes	1/8½	1/4½
Trowbridge	1/7½	1/3½
Truro	1/8	1/3½
Tunbridge Wells	1/9	1/4½
Uppingham	1/9	1/4½
Uttoxeter	1/9	1/4½
Wakefield	1/10½	1/5½
Walsall	1/10½	1/5½
Walsden	1/10½	1/5½
Walton-on-Naze	1/8½	1/4½
Ware	1/10	1/5½
Warminster	1/7½	1/3½
Warrington	1/10½	1/5½
Warwick	1/10½	1/5½
Wellington R.D.	1/10	1/5½
Welwyn	1/9½	1/5
Welwyn Gar. City	1/10½	1/5½
Wells (Norfolk)	1/7	1/3
West Bromwich	1/10½	1/5½
Westcliff-on-Sea	1/10	1/5½
Weston-super-Mare	1/9½	1/5
Weybridge	1/9½	1/5
Weymouth	1/8½	1/4½
Whitby	1/9½	1/5
Whitstable	1/8½	1/4½
Widnes	1/10½	1/5½
Wigan	1/10½	1/5½
Wigton	1/9	1/4½
Willington	1/10½	1/5½
Wilmslow	1/10½	1/5½
Winchester	1/9	1/4½
Windermere	1/9	1/4½
Windsor	1/9½	1/5
Wisbech	1/8	1/3½
Witham	1/8½	1/4½
Woking	1/9	1/4½
Wokingham	1/8½	1/4½
Wolverhampton	1/10½	1/5½
Woodbridge	1/8	1/3½
Worcester	1/10	1/5½
Workington	1/9	1/4½
Worksop	1/10	1/5½
Worthing	1/8½	1/4½
Wrexham	1/10	1/5½
Wroxham	1/8	1/3½
Wycombe	1/9½	1/5
Wymondham	1/7½	1 3½
Yeovil	1/9	1/4½
York	1/10½	1/5½

* Painters 1d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 2/1.
¶ Tradesman's Labourers, 1/6½. Navvies and General Labourers, 1/6½.
§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

NOTE.—Carpenters and Joiners in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.

For Building Trade Wages in Scotland, see page 542.

PRICES CURRENT OF MATERIALS*

Note: Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery. At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.

BRICKS, &c.

The price for Stock Bricks has been altered to minimum price at works for full lorry loads. Sittingbourne district. A quotation for cartage should be obtained as the haulage question is difficult.

		£ s. d.
First Hard Stocks	per 1,000	4 5 6
Second Hard Stocks	„	3 18 6
Mild Stocks	„	3 5 6
Single Rough Stocks	„	2 19 6
Third Common Stocks	„	2 10 0

2⅝ in. Phorpres. A discount of 6d. 1,000 only monthly account.	King's Cross Station per 1,000 s. d.	To sites in W.C. District per 1,000 s. d.
Pressed	51 9	58 3
Keyed	53 9	60 3
Single Bullnose	71 9	78 3
Rustics	71 9	78 3
Whites	72 3	78 3

White Midhurst Best selected (delivered London site) £ 5 10 0
Best blue Pressed Staffs. (London Stns.) 10 2 0
Do. Bullnose (London Stns.) 10 12 0
Blue Wire Cuts (London Stns.) 8 19 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.		£ s. d.
2½ in. 10 0 0	3 in.	12 0 0

GLAZED BRICKS. (London Stns.)

Best White Ivory and Salt Glazed Stretcher 28 0 0	D'ble Str'tch'rs	36 10 0
	D'ble Headers	33 10 0
	One side&two ends	37 10 0
Headers 27 10 0	Two sides&one end	38 10 0
Quoins, Bullnose and 4½ in. Flats 34 10 0	Splays and Squints	36 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

	s. d.		s. d.
2" per yd. sup.	2 3	3" per yd. sup.	2 9
2½" „ „	2 6	4" „ „	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 9	3" per yd. sup.	2 6
2½" „ „	2 1	4" „ „	3 4

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 6
Size 12 x 9 x 2½ „	2 9
Size 12 x 9 x 3" „ „	3 3
Size 12 x 9 x 4" „ „	3 7

Plus 2d. for smooth one side, and 4d. for smooth both sides.

Delivered: Free on site London area.

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

SAND.

Thames Ballast	9 6	per yd. delivered 2 miles radius Paddington.
Pit Ballast	9 0	„ „
Pit Sand	11 6	„ „
Washed Sand	13 0	„ „
¼ in. Shingle	10 0	„ „
½ in. Broken Brick	15 6	„ „
Pan Breeze	9 6	„ „

CEMENT.

Best British Portland Cement. Standard Specification. delivered London Area. £ s. d.

6 ton loads and upwards site per ton	2 9 6
1 ton to 6 tons site	2 12 6
Alongside Vauxhall in 80 ton lots	2 7 0
"Ferrocrete" Rapid Hardening Cement—	
6 ton loads and upwards site	2 15 6
1 ton to 6 tons site	2 18 6
Alongside Vauxhall in 80 ton lots	2 13 0

Stored in Reserved Bins at works. 1s. 6d. per ton extra.

"Aquacrete" Water Repellent, "Blue Circle" cement, 30s. per ton extra on ordinary "Blue Circle" prices.

"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement, in 6-ton lots .. 3 19 6

"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement 10 5 0

"417" Cement (Ultra Rapid Hardening) Delivered site London Area in 6 ton lots and upwards per ton 3 9 6

Plus packages at current prices.

Super Cement (Waterproof), *bags extra* 3 19 6

NOTE.—Paper bags will be charged at the rate of 7s. nett per ton. Jute sacks charged 1s. 9d. nett each and 1s. 6d. nett each allowed if returned to works within two weeks, in good condition.

Carriage will be paid by makers on returned empty jute sacks.

	£ s. d.		£ s. d.
Roman cement	8 10 0	Keene's Cement, White	7 0 0
Parian Cement	7 0 0	„ „ Pink	6 10 0

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	4 0 0	Sirapite, Coarse	4 5 6
„ White	4 7 6	„ Finish	4 13 6
Pioneer	4 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue Lias Lime	3 7 6	Grey Stone Lime	2 17 6
		Chalk Lime	2 17 6
Granite Chippings	1 15 0	Hair per cwt.	3 5 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d. if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £2 12s. 6d. in 6-ton lots at railway depot.

STONE.

BATH STONE.—Delivered in railway trucks at

	s. d.
Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	3 3½

BEER STONE—RANDOM BLOCK—

Free on rail at Seaton Station per ft cube	2 3
Delivered free on rail Nine Elms, S.R. „	3 1½

Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 7
Do. do. delivered on road waggons as above stations per ft. cube	4 7

White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.

HOPTON-WOOD STONE—

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11

YORK STONE, BLUE—*Robin Hood Quality*.

Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) per ft. super	5 6
6 in. rubbed two sides, ditto „	6 3
3 in. sawn two sides slabs (random sizes) „	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) „	1 8½
1½ in. to 2 in. ditto „	1 4½

HARD YORK—

Delivered at any Goods Station, London.	
Scrappled random blocks per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) per ft.super	5 7½
6 in. rubbed two sides, ditto „	6 9
4 in. sawn two sides slabs (random sizes) „	3 5
3 in. ditto ditto „	2 8
2 in. self-faced random flags per yd. super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d.

Small section cills and copings, 11s.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.

	s. d.		Foot cube. £ s. d.
Dry English Wainscot Billets	16 0	to	0 18 0
Dry Slavonian Billet Wainscot	17 0	to	1 0 0
Dry Cuba Mahogany logs	21 0	to	1 4 0
Square-edged Honduras Mahogany			0 16 6
Log Cut Honduras Mahogany			0 17 6
American Figured Oak			0 13 0
American Plain Oak			0 12 6
Jap. Figured Oak			0 13 0
Jap. Plain Oak			0 12 6
Teak			0 15 6
American Whitewood			0 12 6
African Whitewood			0 8 0
African Mahogany			0 11 0
Australian Walnut			0 19 0
Australian Silky Oak			0 12 6
Best Scotch glue	per cwt.		5 0 0
Liquid glue	per gallon		1 2 0

Having Secured the Contract— what about the Steel Scaffolding?

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SCAFFOLDING

For the lowest Prices apply to the Oldest Firm in the Scaffolding Trade.

STEPHENS & CARTER LTD.

The British Steel Scaffolding Co.

731-761, HARROW RD., N.W.10.

Telephone No. Ladbroke 1191 (6 lines).

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE

	Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes,		
2 in. by 3 in. to 4 in. by 11 in.	43 10 0	53 0 0

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1 in. by 9 in. }	67 10 0

	Per square. s. d.
1 in. plain edge flooring	53 0
1¼ in. ditto	66 6
1 in. tongued and grooved	53 0
1¼ in. ditto	66 6

MATCHING.

	Per square. s. d.
⅜ in.	37 6
½ in.	42 0
1 in.	55 0

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	45 5 0	18 by 10	24 0 0
22 by 12	37 17 6	18 by 9	22 12 6
22 by 11	34 2 6	16 by 10	21 10 0
20 by 12	33 0 0	16 by 8	16 12 6
20 by 10	30 5 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£5 6 6
Ditto hand-made ditto	6 7 6
Ornamental ditto	6 14 0
Hip and valley tiles (per dozen) { Hand-made	0 12 9
{ Machine-made	0 12 3

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

R.S. Joists, cut and fitted	£23 10 0
Plain Compound Girders	26 0 0
Stanchions	28 10 0
"In Roof" Work	33 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	23 0 0	⅜ in. to ½ in.	21 10 0
⅝ in.	22 0 0	⅝ in. to 2½ in.	21 0 0

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½ % gross. 10/17

	Tubes. ¼"/6" %	Tubulars. ¼"/6" %	and 19/24 %	Flanges. ¼"/2" %	2½"/6" %
Light weight	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv.lightweight	40½	—	38½	39½	48½
Galv.heavyweight	31	31	31	29½	41

Tubes and tubulars sizes ¼"/⅛" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/5	1/1½	4½d.
3½ in.	1/6½	1/3½	4½d.
4 in.	1/6½	1/5	6½d.
4½ in.	1/7½	1/7½	8d.
5 in.	1/11	1/9	8½d.
O.C. GUTTERS.			
3 in.	1/9½	1/6½	4½d.
3½ in.	2/0½	1/6½	6½d.
4 in.	2/0½	1/7½	7½d.
4½ in.	2/1½	1/10½	8½d.
5 in.	2/7½	2/1½	9½d.

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe	Bends. Stock angles.	Branches.
2 in.	2/1½	1/5	2/1
2½ in.	2/2½	1/7½	2/5½
3 in.	2/7½	2/0½	3/0½
3½ in.	3/1	2/5	3/6
4 in.	3/7	2/10½	4/2½

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent. 2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	3/6½	2/5½	3/0½
2½ in.	4/2½	2/9	3/9½
3 in.	4/6½	3/0½	4/6
3½ in.	4/7½	3/9½	5/3
4 in.	5/0½	4/2½	6/0½

L.C.C. COATED DRAIN PIPE.

	Pipe.	Bends.	Branches.
3 in. per yd. in 9 fts.	5/5	6/3	9/11
cwt. qr. lbs.			
4 in. 1 1 20	7/11	7/1	12/6
5 in. 1 2 22	9/7	12/9	19/3
6 in. 2 0 6	11/5	14/8	25/6

Gaskin, 75/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

	Per ton basis in London. £	s.	d.
IRON.—Staffordshire Crown, Merchant quality	18	7	6
IRON.—Staffordshire Marked Bars	19	7	6
Mild Steel Bars	19	15	0
Mild Steel Hoops	21	10	0
	Ex Merchant's Stock, per ton (two-ton lots).		
Soft Steel Sheets, C.R. and C.A.—			
20 gauge	24	17	6
24 gauge	25	2	6
26 gauge	25	17	6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.			
20 gauge	27	0	0
24 gauge	27	10	0
26 gauge	28	15	0
Galvanised Flat Sheets, C.R. and C.A.—			
20 gauge	28	10	0
24 gauge	29	0	0
26 gauge	30	5	0
	Per ton. £	s.	d.
Cut Nails, 3 in. and up	28	10	0
	ALL NETT.		

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

PLUMBERS' BRASS WORK.

Delivered in London.
To pass Met. Water Board.

CRUTCH HEAD S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
37/-	58/6 per doz.

CHROMIUM PLATED TOILET S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
52/3	72/- per doz.

S.D. STOP COCKS FOR IRON.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
41/-	59/-	97/-	228/-	324/-	540/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
53/-	84/-	136/-	252/-	405/-	664/- per doz.

DOUBLE NUT BOILER SCREWS.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
9/11	11/-	17/6	29/3	49/6	71/- per doz.

HEAVY CROYDON BALL VALVES. SCREW IRON.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	
45/-	73/-	120/-	210/-	297/-	per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
11/9	14/5	21/6	37/9	54/-	59/6 per doz.

BRASS SLEEVES.

1¼ in	2 in.	3 in.	3½ in.	4 in.
10/9	13/6	25/-	37/-	46/- per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1¼ in.	1½ in.	2 in.	3 in.
8 lb. Lead P. ..	26/-	34/8	48/3	84/- per doz.
8 lb. Lead S. ..	32/6	41/6	60/-	108/- „

SOLDER.—Plumbers, 1/5. Tinmen's, 1/8. Blow pipe, 1/10 per lb.

LEAD, &c.

(Delivered in London.)	Per ton. £	s.	d.
LEAD.—Sheet, English, 4 lb. and up	35	10	0
Pipe in coils	35	0	0
Soil pipe	40	10	0
Compo pipe	42	5	0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills..... per ton } £18 0 0.

PAINTS, &c.

	£	s.	d.
Raw Linseed Oil (5 galls.) .. per gallon	0	5	5
Boiled Linseed Oil (5 galls.) .. „	0	5	8
Turpentine (5 galls.) .. .. „	0	8	9
Genuine Ground English White Lead, per cwt.	3	8	3
Genuine White Lead Paint, 14 lb. tins free, per cwt.	4	11	0
Genuine Red Lead, „	2	14	0
Linseed Oil Putty „	1	1	3
Size. XD quality fkn.	0	4	3

Turpentine substitute can be obtained and prices vary according to quality from 3/3 gallon upwards.

	£	s.	d.
SNOWCEM CEMENT PAINT ..... per cwt.	2	16	0
C.M.C. CAMOUFLAGE PAINT ..... „	2	16	0

VARNISHES, &c.

		Per gallon.		
Oak Varnish	Outside	0	16	0
Fine do.	„	0	18	0
Fine Copal	„	1	0	0
Pale Copal	„	1	2	0
Pale Opal Carriage	„	1	6	0
Best do. do.	„	1	14	0
Floor Varnish	Inside	1	0	0
Fine Pale Paper	„	1	0	0
Fine Copal Cabinet	„	1	4	0
Fine Copal Flatting	„	1	2	0
Hard Drying Oak	„	1	0	0
Fine Hard Drying Oak	„	1	1	6
Fine Copal Varnish	„	1	2	6
Pale do.	„	1	14	0
Best do.	„	1	4	6
Best Japan Gold Size	„	1	14	6
Best Black Japan		0	12	0
Oak and Mahogany Stain (water)		0	14	0
Brunswick Black		0	9	6
Berlin Black		0	16	0
Knotting (patent)		0	17	0
French and Brush Polish		0	14	0
Liquid Dryers in Terebene		0	11	0
Cuirass Black Enamel		0	9	0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY (O.Q.) AND SELECTED GLAZING QUALITY (S.Q.).
PER FOOT SUPER.

In sizes not exceeding 80 in. long or 48 in. wide or 110 united inches.

	O.Q.	S.Q.
18 oz. in 300 ft. cases	2½d.	2¾d.
24 oz. „ 200 ft. „	3½d.	4d.
26 oz. „ 200 ft. „	3¾d.	4¼d.
32 oz. „ 200 ft. „	5¼d.	6¼d.
24 oz. „ 300 ft. „	3¼d.	3¾d.
26 oz. „ 300 ft. „	3¾d.	4¼d.
32 oz. „ 300 ft. „	5¼d.	6¼d.
24 oz. Obscured Sheet		6¼d.
Fluted, 21 oz.		9d.
Enamelled, 18 oz.		5¼d.
„ 24 oz.		6¼d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.

	Per ft. s.	d.
Rolled plate, ¼ in.		5¼d.
Rough cast double rolled, ⅛ in.		6¼d.
Rough cast double rolled, ¼ in.		6¼d.
Figured rolled, and Cathedral, white		6¼d.
Figured rolled and Cathedral, tinted		9¼d.
Rolled Sheet		6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0	10½

Rolled plate is the same price as rough cast double rolled.

	Per ft. s.	d.
Wire Rolled, ¼ in. thick	0	9½
Wired Cast, ¼ in. thick	0	9½
Georgian Wired Cast	0	10
" Calorex " Sheet, 21 oz.	2	6
„ „ 32 oz.	4	0
„ Cast, ¼ in. thick	0	10
„ „ ⅜ in. thick	1	0
„ „ ½ in. thick	1	2
Non Actinic Glass, ¼ in. thick	0	9½
„ „ „ ⅜ in. thick	1	0
„ „ „ ½ in. thick	1	2

" VITA " GLASS.

	Per ft. s.	d.
" Vita " Plate Glass, about ⅛ in. thick		
To 7 ft. super	5	0
Over 7 ft. super	7	6
" Vita " Sheet Glass, about 18/20 oz.	2	0
Cathedral " Vita " Glass :		
¼ in. thickness	2	0
⅛ in. „	3	0
⅜ in. Georgian Wired " Vita " Glass	3	6

GLASS BRICKS.

	s.	d.	
P.B. 1—8 in. × 4¼ in. × 3¼ in.	2	3	each nett
P.B. 2—5¼ in. × 5¼ in. × 3¼ in.	2	0	„
P.B. 3—7¼ in. × 7¼ in. × 3¼ in.	3	0	„
P.B.32—7¼ in. × 7¼ in. × 3¼ in.	3	0	„
Radiused Corner Bricks to match up with—			
P.B. 2	3	9	each nett
P.B. 3	5	0	„
P.B.32	5	0	„

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from October 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

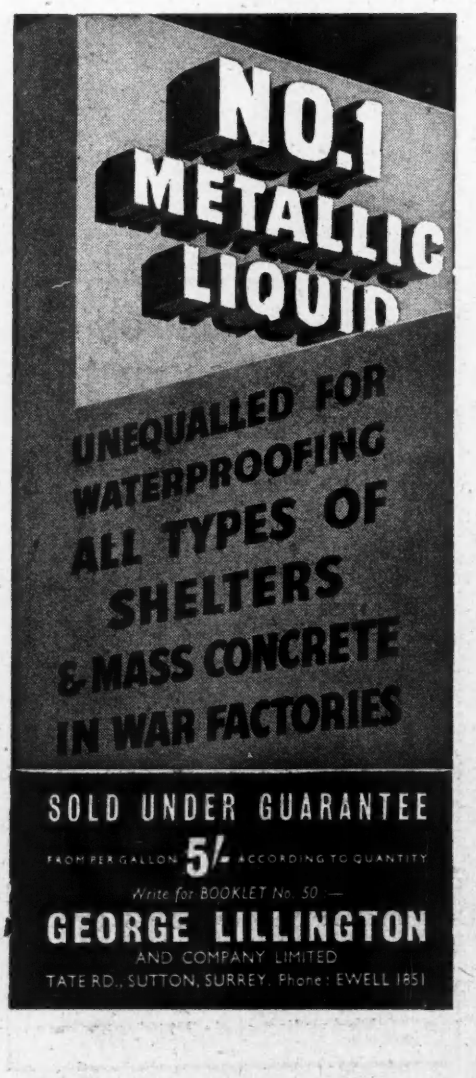
Grade Classification	A	A1	A2	A3	B	B1
Craftsmen	1/11½	1/11	1/10½	1/10	1/9½	1/9
Labourers	1/6	1/5¾	1/5¼	1/5	1/4½	1/4¼

Aberdeen ....A	Dumfriesshire A2	Inverness....*
Ayrshire ....A	Dundee ....A	Inverurie A1
Banff ....B	Dunoon ....A	Kincardineshire A2
Berwickshire A2	East Fife....A	Kinross-shire ....A
Bridge of Allan ....A	East Lothian ....A	Lanarkshire ....A
Broughty Ferry ....A	Edinburgh ....A	Midlothian ....A
Clackmannanshire ..A	Fifeshire ....A	Monifieth ....A
Doune ....A	Forfarshire A2	Moray and Nairn ....B
Dunblane ....A	Glasgow ....A	Newport ....A
Dumbartonshire ....A	Greenock ....A	Peeblesshire A2
Dumfries....A1	Hamilton ....A	Perth ....A

Perthshire A2	
Peterhead A1	
Renfrewshire ....A	
Rothesay ....A	
Roxburghshire A2	
St. Andrews ....A	
Selkirkshire A2	
Stewartry A2	
Stirlingshire ....A	
Stornoway A2	
Tayport ....A	
West Lothian ....A	

* This town has its own rates : Masons, 1/8½ ; Carpenters, 1/8½ ; Slaters, 1/8½ ; Plumbers, 1/9 ; Plasterers, 1/9½, but 1/10 is paid owing to the scarcity at present ; Painters, 1/8½ and Labourers, 1/4

The information given in this table is copyright. Rates of wages in England and Wales are given on page 540.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SOLD UNDER GUARANTEE
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Write for BOOKLET No. 50 —
GEORGE LILLINGTON
AND COMPANY LIMITED
TATE RD., SUTTON, SURREY. Phone: EWELL 1851

THE SCOTTISH BUILDER NEW BUILDINGS

CAMBUSLANG.—EXTENSIONS.—Plans prepared by James McGowan, 23, Dalton, Cambuslang, for extensions to workshops.

GLASGOW.—FACTORY.—Plans prepared for factory, architect being George Boswell, 256, West George-st., Blythswood-sq., Glasgow.

GLASGOW.—ALTERATIONS.—Plans prepared for alterations and additions, the architects being James Taylor Thomson and Partner, 220, Bath-st., Blythswood, Glasgow.—Plans in hand for canteen, architect being Arthur A. Morrison, 36, Baltic-la., Dalmarnock-rd., Bridgeton, Glasgow.

HOUSEWOODHILL.—PREMISES.—Plans in hand for new premises near Pollock, for the Pollockshaws Co-operative Society, Ltd.

UDDINGSTON.—ALTERATIONS.—Plans prepared for alterations and extensions, architect being William Watt, Albert-st., Motherwell.

SCOTTISH N.J.C.

WINTER WORKING HOURS.

THE Scottish National Joint Council for the Building Industry on November 26 reviewed again the question of the working hours during December and January. The Council resolved, in order to make the fullest possible use of available daylight owing to the continuation by the Government of summer time, that the normal working hours of 44 hours per week may be worked between the hours of 8 a.m. and 6 p.m. weekdays, and 8 a.m. and 1 p.m. on Saturdays during December and January. The appropriate overtime rates will accordingly fall to be paid prior to the starting time, and after the stopping time adopted within these hours in any particular job or site.

Uniformity Agreement Hours.

The Joint Board administering the Building and Civil Engineering Industries Uniformity Agreement (Scotland) have resolved that on contracts to which the Agreement has been applied, the appropriate overtime rates will fall to be paid after 7½ hours during weekdays, and 4½ hours on Saturdays, during the months of December and January, in accordance with the above.

A.R.P. SCHEMES

LONDON

Barking.—Cleansing station proposed in Town Yard at £340.

Hampstead. — For taking down and re-erecting some and strengthening other shelters, for T.C., contracts have been placed with C. B. King, Ltd.

Lewisham.—£391 tender of Wates, Ltd., accepted by B.C. for strutting a shelter at Forest Hill. £79 tender of South Metropoliton Electric accepted for installations at two cleansing posts. Following contracts sealed: E. H. Munnion, Ltd., for general Civil Defence work; A. Offer and Son and Hobden and Holman (Contractors), Ltd., for concreting and rendering to Anderson shelters; W. Carter (Builders), Ltd., for general civil defence works, first aid repairs to houses, etc., and for concreting and rendering to Anderson shelters; G. N. Haden and Sons, Ltd., improvement of heating system, Town Hall Chambers; Campbell and McGill, Ltd., for additional wardens' posts; and H. Kent (Builders), Ltd., for gas cleansing post, Bromley-rd.

Poplar. — B.C. accepted tenders for strengthening surface shelters as follows: Reader Bros., £2,130; H. Mills and Sons, £2,127; Crispin and Borst, Ltd., £769; E. A. Roome and Co., Ltd., £1,061. Also with *The Parker Construction Co., Ltd., £516; *Grays Thurrock, £396; L. and W. Whitehead, Ltd., £928; J. H. Roberts, £541; W S. Sharpin, £240. (*Reallocation of contract placed with Harris and Sharp.)

Wembley.—T.C. propose £500 adaptation of existing cleansing station in the Hyde district.—Contract placed, at £1,124, for cleansing unit at Monks Park F.A.P. with Lancaster and Sons.—£407 contract placed with Worboys and Sons, Ltd., for demolition of 33 communal shelters.—T.C. propose to build surface shelters in High-rd. area to replace basement shelters.

Woolwich.—T.C. approve: Sherard-rd. health centre to be converted into cleansing station at £972, of which £381 is for hot-water, etc., installation by G. N. Haden and Sons, Ltd. Eight sets of premises to be adapted for fire guards at £353. Five communal shelters to be strengthened at £1,088. £270 shelter to be provided at Y.M.C.A., Red Triangle Boys' Club, Plumstead Common. £107 tender of Furlongs, Ltd., accepted for linoleum at Lionel-rd. F.A.P. £234 to be spent on lavatory accommodation at disinfecting station, White Hart-rd.

PROVINCIAL.

Bebington.—T.C. placed contract for tunnel shelters, at £20,000, with the Cementation Co., Ltd., of Bentley, nr. Doncaster. Plans by L. Birch, B.S.

Blackburn.—T.C. propose public shelter in basement of Town Hall. Plans by W. Pickstone, B.E.

Bournemouth.—A.R.P. Committee recommend acceptance of following revised tenders for strengthening, etc., of shelters at children's playgrounds, subject to Region approval: E. and A. Loader, £84; John Jagger (Parkstone), Ltd., £233.—Subject to Region approval, tender of J. Druitt, at £369, recommended for acceptance for work on decontamination laundry at isolation hospital.

Gateshead.—J. Clark and Son, New Seaham, Co. Durham, have secured contract, at £2,008, for four A.R.P. garages. F. H. Patterson is B.E.

Ilkeston. — T.C. placed contracts with B. J. Legge (Industries), Ltd., Williamson-st., Wolverhampton, for electric lighting, and with Derbyshire and Nottinghamshire Electric Power Co., Ilkeston, for laying of mains for electrical installations of school trenches, at £457 and £149 respectively.

Lancaster. — T.C. propose strengthening existing reinforced surface shelters. Plans by F. Hill, City S.

Malden and Coombe.—T.C. accepted tender of C. H. Coates, Ltd., at £1,240, for strengthening public shelters.

Middlesbrough. — Town Planning Committee approved scheme for control centre, for Tees Valley Water Board, Corporation-rd., Middlesbrough.

Newcastle-on-Tyne. — E. Thompson, 12, Grey-st., Newcastle-on-Tyne, has secured contract, at £3,261, for decontamination station, Stanmore-rd., for City Council.

Newcastle-under-Lyme.—T.C. propose concrete lining of water storage basin; also static water supply basin. — T.C. received tenders from C. C. McInerny, 20, George-st., at £515, and J. Bagguley and Son, Sidmouth-ave., at £490 (both of Newcastle), for heating installations in 24-50 and 8-100 public surface shelters. Subject to approval of Regional Officer of one of the tenders the B.S. to proceed with the work.—T.C. placed contract for alterations to St. John's first-aid post with T. Hughes, 22, Bagnall-st., Newcastle-under-Lyme.—T.C. approved expenditure of £381 for A.R.P. work, garage accommodation, lighting installations, etc.—Full list of tenders for strengthening public basement shelters will be found on page 544.

Rochdale. — E.C. propose installation of heating and lighting in five additional school shelters.

Rotherham. — T.C. propose static water supply reservoir. Plans by V. Turner, B.S. —T.C. propose strengthening 30 existing public shelters.

South Shields.—T.C. applying for sanction to borrow £40,000 in connection with A.R.P. —T.C. to carry out following work at school shelters: Strengthening of shelters at High Barnes Junior School, Simonside and Cleadon Park Open Air School, at £900; installation of slow combustion stoves, at £400; building up of entrances, at £300; strengthening of shelters and building up of entrances at Boys' High School, at £352; and strengthening of shelters at Junior Instruction Centre, at £337.

Tyldesley. — U.D.C. to adapt almshouses, Astley, as rescue service depot. Plans by N. Chamberlain, S.

Warrington. — Tender submitted by D. Cooper, Ltd., Clarence-st., accepted by T.C. for brick blast walls at Padgate Cottage Homes.—Tender of H. Fairclough, Howley Works, Warrington, accepted for four static water storage basins.

West Hartlepool.—E.C. to apply for sanction to borrow £2,520 for school shelters.

West Lancashire.—R.D.C. propose shelter accommodation for hostels.

West Riding.—C.C. to adapt Masonic Hall at Knaresborough as ambulance garage. Plans by County Architect, County Hall, Wakefield.

York.—T.C. received approval of Ministry of Home Security for water storage basins and tanks. Plans by C. J. Minter, City E.

SCOTLAND.

Cupar. — Plans prepared for shelters at Castlehill school by George Sandilands, County Architect, St. Catherine-st., Cupar.

Dalkeith.—Plans prepared for four shelters, for the Corporation, architect being A. Forrester, Municipal Offices. Contractors are J. Monteith, Ltd., Dalkeith.

Glasgow.—Plans in hand for shelters at Young Terrace. Thomas Somers, architect, Office of Public Works, Municipal-bldgs., George-sq., Glasgow.

Glasgow.—Plans prepared for A.R.P. shelters at Cresswell-st., the architect being Thomas Somers, Municipal-bldgs.

Motherwell.—Plans in hand for works and baffle walls at County Hospital, at £3,002, the architect being William Watt, Albert-st., Motherwell.

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TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Cheadle. — Laying approx. 180 yd., 6-in. dia. stoneware pipe sewer with five manholes, for R.D.C. J. W. Burton, E.: *A. E. Henshall & Co., Ltd., 8, Stuart-av., Trentham, Staffs, £372.

Hindley.—Demolishing existing chimney and erection of new chimney on new foundations, for U.D.C. J. Holmes, E.: *Daniel Adamson & Co., Ltd., Dukinfield, £824; foundations: *Direct labour, £350.

Keighley. — Installation of a reserve hot-water supply and connections for auxiliary cold water supply to Turkish baths, for T.C. E. G. Felgate, Boro' Architect, College-st.: *R. Moulding, Ingrow, Keighley.

London (M.W.B.).—Metropolitan Water Board- (H. F. Cronin, M.Inst.C.E., Chief Engineer, Rosebery-av., E.C.1) have accepted tenders: For provision of pumping machinery at a borehole:—

Tangyes, Ltd.	£4,886
Sulzer Bros. (London), Ltd. ...	4,453
Worthington-Simpson, Ltd. ...	4,432
The Mirrlees Watson Co., Ltd., ...	4,213
W. H. Allen, Sons & Co., Ltd.—	
Main tender	4,090
Alternative tender	4,090
Second alternative tender ...	4,060
The Pulsometer Engineering Co., Ltd.	3,889
*Harland Engineering Co., Ltd. ...	3,495

For four portable timber garages: *Lewisham Timber Co., £247.

¶London (Air Ministry).—The Directorate of Contracts (A.M.) have placed contracts to the value of £500 or over for week ended December 6, as follows:—

Electrical work: W. T. Henley's Telegraph Works, Ltd., Dorking.

Air filtration and heating work: Mellor, Bromley & Co., Ltd., Leicester.

General maintenance work: H. C. Janes, Ltd., Luton; A. Thomas & Co., Ltd., Llanelly; and J. Rutherford & Son, Ltd., Newcastle-on-Tyne.

Building work: J. Laing & Sons, Ltd., Mill Hill.

Civil engineering work: M. J. Gleeson, Ltd., North Cheam; Anglo-Scottish Construction Co., Ltd., Horsham; and Taylor Woodrow Construction, Ltd., Southall.

Building and civil engineering work: Stewart McIntyre, Ltd., Edinburgh.

¶London (War Dept.).—Following are contracts placed by War Department at November 29:—

Sutherlandshire: Hutting (erection), J. Bisset & Sons., Ltd., Back Hilton-rd., Aberdeen.

Durham: Hutting (erection), E. Henderson & Son, Ltd., Eland Grange, Ponteland, Newcastle-on-Tyne.

Yorks: Miscellaneous work, T. Throup & Sons, Ltd., Horsforth, nr. Leeds: J. B. Brooke & Sons, Ltd., 264, Manchester-rd., Huddersfield: Horace H. Brook (Ctr.), Ltd., Stanley-st., Sowerby Bridge, Yorks.

Yorks: Miscellaneous works (two contracts), Whitaker & Co., Denholme Gate, Bradford, Yorks.

Derbyshire and Yorks: Painting work (two contracts), S. Lupton & Sons, 51, Windsorhse., Victoria-st., S.W.1.

Leics: Miscellaneous work, Bradshaw Bros. (Ctrs.), Ltd., 214, Blackbird-rd., Leicester.

Worcs: Miscellaneous work, Thos. Vale & Sons, Ltd., Lombard-st., Stourport-on-Severn, Worcs.

Glos: Hutting (erection), M. Partridge, Birdlip, Glos.

Middx: Building work, Structural Contractors, Ltd., 14, Central Parade, St. Marks Hill, Surbiton, Surrey.

Somerset: Hutting (erection), J. F. Gamble & Son (New Forest), Ltd., High-st., Lyndhurst, Hants; Benson Bros (Bristol), Ltd., Filton-av., Bristol.

Dorset: Miscellaneous works, H. W. Marsh, East Side, Blandford, Dorset.

Co. Down: Hutting (erection), P. J. McKenna & Sons, City Mills, Armagh; I. Copeland & Sons, Ltd., Lower Windsor-av., Belfast.

Manchester.—Works, for T.C.: (a) Painting, etc., work; (b) joiners' work, Northenden 'bus garage; (c) builder's work, steelworks, etc., for new lavatory; electricity works: (a) *F. & J. Pilling (Bros.), Ltd., 19, Birch-la., Longsight; (b) *Moseley Construction Co., Ltd., Sherbourne-st., Strangeways; (c) *Moston Brick & Building Co., Ltd., Kenyon-la., Moston (all of Manchester).

Newcastle-on-Tyne.—Provision of billeting accommodation, for City Council. R. G. Roberts, City Architect, 18, Cloth Market: *William G. Mackay, 19, Clayton-rd., Newcastle-on-Tyne, £727.

Newcastle-under-Lyme.—Works, for T.C.: (a) Internal decorations; (b) external decorations of police headquarters: (a) *Philip Andrews, 38, Keele-rd., Newcastle-under-Lyme, £128 19s. 6d.; (b) *Hartshill Development Co., Ltd., 589, Hartshill-rd., Hartshill, Stoke-on-Trent, £95.

Newcastle-under-Lyme.—For strengthening public basement shelters, for T.C.:—

Section 1.—Newcastle Town (South).

S. Heath & Son	£1,299
Pattison & Hall	1,299
T. Hughes	1,239
Baddeley Bros., Wolstanton ...	1,232
Turner & Richards	1,230
*Hartshill Development Co., Ltd., 589, Hartshill-rd., Stoke-on-Trent	1,209

Section 2.—Newcastle Town (North).

S. Heath & Son	928
Baddeley Bros., Wolstanton ...	891
T. Hughes	888
Hartshill Development Co., Ltd., Hartshill	886
*Turner & Richards, Ashfield New-rd.	871

Section 3.—Wolstanton.

Hartshill Development Co., Ltd., Hartshill	1,073
T. Hughes	1,064
Turner & Richards	1,051
*Baddeley Bros., 78, Dimsdale-parade, Wolstanton	1,035

Section 4.—Chesterton, Knutton and Silverdale.

Hartshill Development Co., Ltd., Hartshill	1,097
Baddeley Bros., Wolstanton ...	1,095
Turner & Richards	1,077
*T. Hughes, 22, Bagnall-st.	1,046

(Rest of Newcastle-under-Lyme.)

Rochdale.—Alterations to premises for use as police garage, for T.C. S. H. Morgan, B.S.: *Brierley & Castrees, Mellor-st., Rochdale.

Runcorn. — Painting and decorating of houses, for R.D.C. A. J. King, A.M.Inst.C.E., E. & S.: *R. H. Evans, Townfield-la, Frodsham.

South Shields.—Exterior painting of High school for boys, for E.C.: *W. L. Swann & Co., 40, Osborne-av., South Shields, £207.

Wembley.—For dry store, water tanks, and shelters for 12 persons, at British Restaurant, Kingsbury-rd., for T.C.: *Thomas Curry, Ltd., Harrow, £415.—For adapting premises at 15-20, Oakington-parade, Harrow-rd., as British Restaurant, for T.C.: *Thomas Curry, Ltd., Harrow, £1,325.

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